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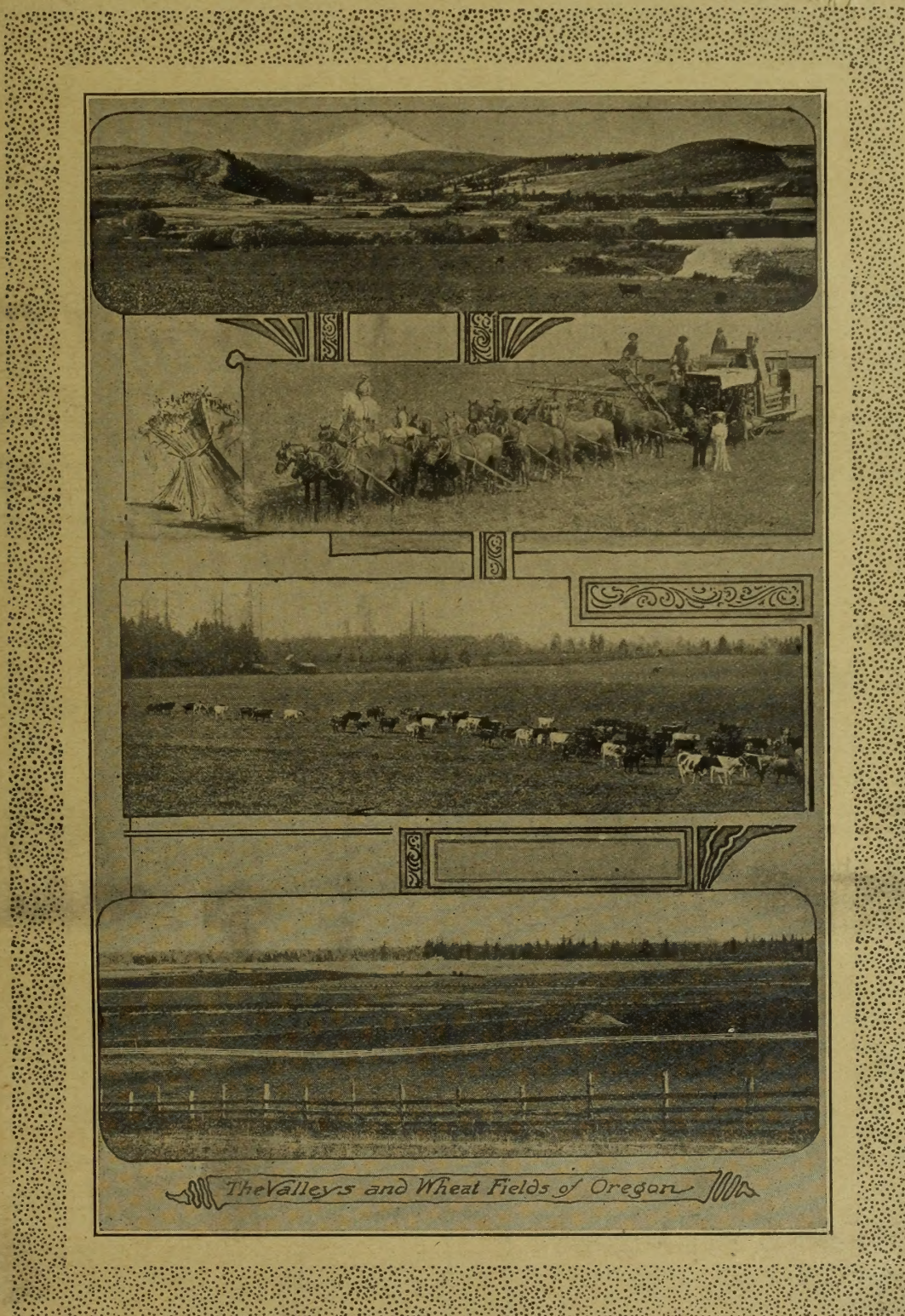
California Cultivator

Los Angeles

July 4 1907

San Francisco

Farm Scenes in the Valleys of Oregon



The Valleys and Wheat Fields of Oregon

372
11
no 2

CALIFORNIANS have an interest in our next door neighbor on the north. A rich State with possibilities of great development. And in that development there is in the heart of the true Californian a feeling of heartiest good will and a desire to see our neighbor prosper as we hope to prosper.

Jealousy should have no place on the Pacific Coast. We all have too many opportunities of our own to develop to complain about the other fellow who is spitting on his hands and developing his.

But possibly our busy California farmers may stop a moment and take a look over the fence into our neighbor's backyard and see how big that is.

By the courtesy of Philips Bates of the Pacific Northwest we give, above, a glimpse, and from his paper quote:

"With a length from East to West of approximately 300 miles and an average width of 280, covering four degrees of latitude, Oregon is an empire in itself. Its area of 96,000 square miles is nearly half that of France, and but a small fraction less than that of the entire United Kingdom.

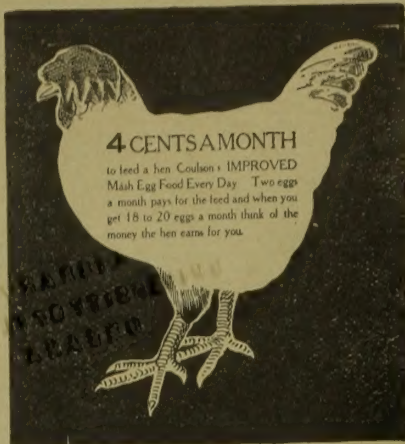
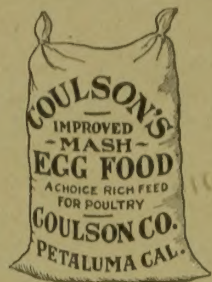
"Were States created according to natural division, Oregon would be divided into three great commonwealths, each rich, but in widely different ways. It will be seen that the Cascade range, running north and south, divides the State into two unequal portions, the larger of which lies to the East of this chain of lofty mountain

"The western portion of the State is further subdivided by another mountain range running parallel with the Cascades and lying between them and the seacoast."

Coulson's Improved Mash Egg Food

Takes Less Feed

Makes More Eggs



IF YOU WANT PLENTY OF EGGS THIS FALL AND WINTER when prices are high, you must lay your plans now. The hens must be given a strong feed which will enable them to get through the molt without loss of condition, and they will then quickly commence laying again.

First, see that your hens are healthy when they start to molt. At this time of the year, after a heavy laying season, they are apt not to be at their best, and a little of *Coulson's No. 3 Condition Powder* will put new life into them, and enable them to thoroughly digest and use the good food which they specially need.

At the same time, they must have the best food you can give them from the commencement of the molt. You will find *Coulson's Improved Mash Egg Food* is just what is required. It is strong in protein, due to the blood, meat, bone and oil cake meals which it contains.

Put Up in 90-lb. Sacks Directions in Each Sack

Your hens will not need to eat so much of the concentrated food to obtain the egg-making and feather-producing materials they need, thus saving their digestive organs and your pocket at the same time.

Coulson's Improved Mash Egg Food is therefore beneficial in two ways. Less feed is required and the hen gets just what she needs, with the result of a quicker molt and more eggs.

First cost is not everything, but even in this respect, **COULSON'S IMPROVED MASH EGG FOOD** shows to advantage. A 90-lb. sack will make a meal for 1250 hens. This is just over 2 lbs. a hen a month. Think how many eggs does it take to pay for this feed? In November, only 1 egg, and not more than 2 on the average.

We know what this feed will do by results on our own poultry ranch, as well as from testimonials from pleased customers all over California. What it does for others, it will do for you.

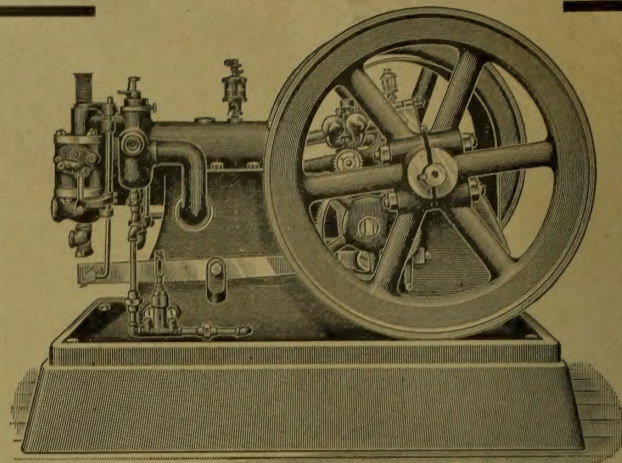
Give a trial order to your dealer; if he does not keep it, write to us, and we will either advise you where you can get it locally, or supply you direct.

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Petaluma, California

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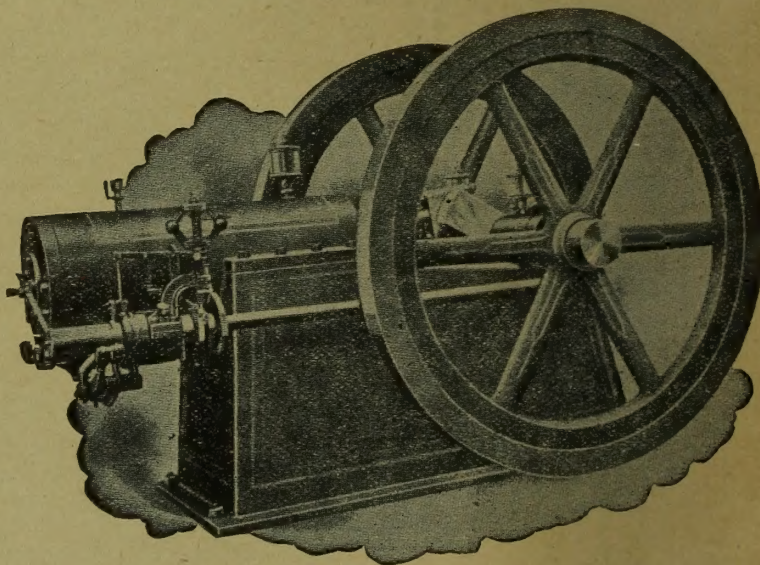
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A Booklet, "The Whole Story About Wood Pipe," mailed free upon request.

When writing advertisers, mention Cultivator.

California Cultivator

Vol. XXIX— No 1

Los Angeles, California, Thursday, July 4, 1907

Subscription \$1 a Year

The Growing of Bulbs

A Timely Article by O. M. Morris, Who Thoroughly Understands Their Culture Under Pacific Coast Conditions

A FEW simple directions on the culture of bulbs and bulbous rooted plants that are most common in our California gardens. Some of these are naturally very hardy, and grow from year to year without care or attention and produce perfect flowers, while others require the skill of a good gardener to bring them to anything like perfection. Many are evergreen in their growth. That is they never die down, such should be kept watered and in continual growth.

Dutch Bulbs.

There is a general term "Dutch Bulbs," applied to fall bulbs imported from Europe. These are mostly imported by seedsmen and arrive during the fall. Commencing to come in last of August and are mostly all in by October 1. We will class them under four general culture directions as "half hardy," hardy, tender and evergreen.

The tender class such as Cyclamen, Begonias, Ornamental Leafed Caladiums, etc., in which considerable care is necessary to keep bulbs through from season to season. Half hardy as a general rule, are such that require same care and attention as hardy bulbs. All bulbs when not otherwise mentioned should have full open location. They delight in sunshine for a part of the day at least.

Tender Bulbs.

Tender bulbs are those that require some special attention, these bulbs should be lifted as soon as ripened down, placed in the shade and dried off, top then removed, and bulbs cleaned, after which they should be well dusted with sulphur and a few handfuls of coarse ground charcoal mixed among them, then covered with dry sand and stored in cellar or shed till season of planting comes again.

Half Hardy.

These bulbs are those that keep well and are easily handled, except by using some special precautions, under most conditions should be lifted and stored in boxes in dry cellar by covering with dry sand prevents an excess of drying and they will retain more vitality.

Hardy Bulbs.

The hardy are treated same as half hardy, except not necessary to cover with sand but, even with these it helps preserve them.

Agapanthus.

"Blue African Lily," (evergreen) thrives even against abuse and drought, very hardy and a sure bloomer. Will do best if undisturbed for a number of years, often however it becomes too thick and should be divided, fall and winter are best time, tear apart rather than cut them.

Amaryllis, (Hippeastrum).

These all thrive and bloom best if undisturbed. But if moving is necessary as it often is, the best time is after blooming. A. Belladonna, comes in three varieties two of which are common. The Major and Minor, one blooming two months earlier than the other.—Both summer bloomers, will stand transplanting best of the class. A. Johnsoni, A. Vittatum, and Hybrids of this genus, have recently become very popular, all are hardy and easily grown.

Anemone, (wild flower).

The common varieties usually classed with "Dutch Bulbs," should be planted in fall and winter, and as soon as tops die down should be taken up and stored as directed for half hardy bulbs. Anemone Japonica, a perennial grower (evergreen) should be left in its natural growth undisturbed, same as for Agapanthus, blooms nearly all the year.

Antholyza.

A hardy bulb like gladiolus, with exactly same treatment.

Astilbe Japonica, (see under Spirea.)

Begonia, (Tuberous Class.)

These bulbs are mostly imported by seedsmen from Europe, and arrive about Nov. 15 to January 1, and are then ready for planting, should have a shady location, such as would be called a "Fern-bed." Cover bulbs about one-half inch, and water lightly till growth starts. For outside beds, March is best month, but early bulbs could be started in pots and planted out as soon as weather becomes warm. On approach of cold weather they will die down, should then be lifted and cared for as tender bulbs. There are three or four varieties of late introduction that are called "Sun proof," but what is sun proof in England is not necessarily sun proof here. We hope to fully report concerning this for another summer.

Caladiums, "Elephant's Ears."

A semi-aquatic plant, quite hardy if given plenty of water, frequently frosts down, but soon makes new growth. Can be kept growing throughout the year, in most localities in this State. Can be easily divided most any time of year. The ornamental leaf variety does not thrive well in California.

Cannas, "Indian Shot."

A very effective plant for groups and subtropical garden, or border, flowering in great varieties of colors with green and bronze foliage, evergreen in most parts of California and easily divided any time.

Crinum.

Most all of the species are evergreen and treated like Agapanthus.

Crocus.

These are practically a failure in our section and we do not recommend them.

Cyclamen.

Cyclamen are among the most beautiful and interesting of winter and spring flowering bulbs. Are to some extent successful in open ground like Begonias, but for the general grower we recommend them as pot plants. They thrive best in a compost of loam, leaf-mold and sand, to which add a little well rotted manure. Pots and pans should be well drained and bulbs should be planted with crown even with surface of soil. Dormant bulbs can be secured from September to February. (Tender.)

Dahlia.

These most showy plants are of easy culture, requiring a deep rich soil and plenty of water during growing period. There are many selections, double, large flowered, show, pompon, single and

cactus flowered. All should be planted out in April, May and June, about three to four feet apart. At the end of flowering season dry them off and lift the bunches intact, store away in dry cellar or shed till spring when they can be divided and placed in hotbed or frame for propagation, or planted at once where they are to grow. Care should be taken in dividing, as it is necessary to have an "eye" from the stem, the tuber having no eye.

Dielytra Spectabilis, "Bleeding Heart."

A very ornamental flowering plant. Dormant roots are procurable during winter, which should never be allowed to become too dry, plant out early as procurable and when thoroughly dried down, can be taken up and stored in moss, or damp sand till spring. Prefer "fern bed" location.

Freesias.

Freesias should be planted out in fall or as early as July and will flower from January to May, according to time of planting. Can be left for years in same place, but better results come from lifting at least every two years and planting anew. Bulbs should be kept dry till ready to plant. (Hardy.)

Gladiolus, (Sword Lily).

This is probably the most popular bulb grown, admired alike in the rich and the poor man's garden. Always sure to bloom and thrive and is becoming more popular every year. They are remarkable for their grace and beauty and can be planted in California throughout the year. Large bulbs require from two to four months from planting to bloom, according to variety. By planting in January and continuing at intervals of two or three weeks till July, one can have flowers through the whole season. In July by taking up those planted in January, drying them off well, can replant in August and have flowers during winter, try it.

Gladiolus Colvilli, or Dwarf Gladiolus.

There is an early species, the Colvilli, of dwarf habit, seldom growing over two feet, that is grown for early winter and spring flowers, plant in December and January. A handsome new one, "Peach Blossom" has become immensely popular, also a white one of same type.

Gladiolus Seedlings.

Great pleasure can be had by growing these bulbs from seed. By planting seed in protected bed, in early spring and carefully weeding and cared for by September flowers will commence to appear and continue through the season. Often, however, the finest and most delicate colored ones will not bloom till following spring, but the great diversity of coloring and assortments well repays one for the care bestowed.

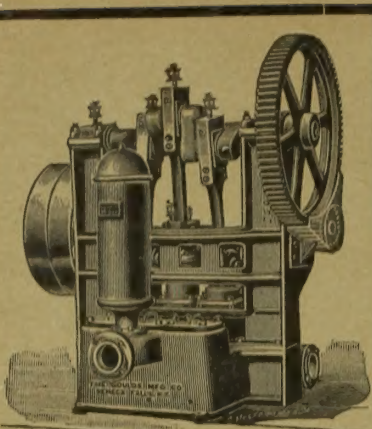
Gloxinia.

These are only to be grown in green house.

Ranunculus.

One of our finest half-hardy bulbs, should be planted in fall and will bloom in early spring. Thrives best if planted very thick in clumps or beds, say about three or four inches apart each way. Best to take up in early summer and store as half hardy bulbs.

Concluded Next Week



Gould's Triplex Power Pumps

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HIGHER EFFICIENCY
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\$1.50 per dozen; \$6 per 100; \$40 per 1000. Plant now
and get returns next winter. Pedigreed plants
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J. B. Wagner
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Burbank Crimson Winter Rhubarb

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ranted the genuine article. Orders filled promptly

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Fastest drillers known. Great money earners!
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Deciduous Fruit Culture

CARBON BISULPHIDE.

THE use of this liquid as an in-
secticide extends back fifty years
and is being used more and more
every year. It was first used in an
It was found that it killed the eggs as
well as the insects, leaving no per-
sistent odor. Experiments under all
conceivable conditions have been
made with the liquid till now it is
used in many ways and its use is
constantly being extended.

As a gopher exterminator it is a
decided success if used during wet
weather while the pores of the soil
are filled with water. Bisulphide of
carbon is a little more than twice as
heavy as air when it has volatilized,
and when it finds any air spaces in
the soil, it will follow them quickly
and before it can reach all the rami-
fications of a gopher's hole for in-
stance, nearly all of it will be lost
and the gopher will escape, when the
soil is dry and open. It is useless to
use it at such times. It has been our
experience that when a gopher hole
runs up and down a hill or slope, it
is useless to try to smother him out
with the bisulphide machine unless
it is worked from the top of the ele-
vation.

After the rainy season has passed,
this material should be laid aside in
the treatment of gophers. The use
of traps is then the only reliable
method of catching gophers aside
from poison. bisulphide is not al-
ways the cheapest method of control-
ling them when there are but a few
scattering ones to get rid of. Where
these pests are in colonies and an
area is infested with them, the bisul-
phide of carbon remedy will clean
out the largest number with the least
amount of work when operated in the
proper season.

In the case of phylloxera it has not
proven desirable in this country,
though it has been used extensively
in France. It costs too much to use
on a large scale for this purpose. For
exterminating this pest in a small
vineyard, it is very satisfactory, but
care must be taken not to use too
much or it will kill the vine. Four
ounces distributed in three or four
holes equally distant around a vine
will do the work. In this case, the
ground should be wet as it will force
a wider and more even distribution
of the vapor. If placed in the dry
soil it may enter an opening of some
sort and most of it drain away before
it does the work. The same is true
in treating woolly aphis on pear and
apple trees.

In the treatment of grubs in the
lawn, very careful work must be done
or the grass will be killed. The lawn
grub goes deeper into the soil during
cold weather than is his habit during
the regular working season. This
period when it is deepest in the soil
is the best time to gas the grub. The
soil is in a more favorable condition
and the grubs are farthest away
from the mass of grass roots. Ants
in a lawn cannot be killed with bisul-
phide of carbon without killing the
grass immediately around the hole.
Boiling water applied often will do
the work without injuring the grass.

When the holes are in open ground,
it is best to make two or three open-
ings with a probe to a depth of six
or eight inches around the ant holes
and pour one or two ounces of the
liquid into each hole. Cover the
holes with dirt and wet the surface.

There is little gained by exploding
the gas after putting it in the holes.
This is often done with the idea of
forcing the fumes down. This is ac-
complished to some degree, but much
of the gas is lost and will continue
to burn with an invisible flame for
some time afterward. It is therefore,
dangerous to apply the liquid again
soon after the hole has been fired,
for an explosion will surely occur. If
left without firing, the gas will grad-
ually work its way down and do the
maximum amount of destruction.

Perhaps the greatest good derived
from the use of bisulphide of carbon is
when it is employed to exterminate
insects in grain bins and seed store-
houses. This is accomplished by
simply placing the liquid in a pan on
top of the piles of seed and closing
the bins or room, if the seed is piled
in such places. There is absolutely
no bad effect on the seed and after
thorough ventilation there is abso-
lutely no odor left.

Ventilation is to be provided for
after use. All openings should be
closed in the floors and lower walls
and the material to be fumigated
should be spread over as much sur-
face as possible. The liquid expands
375 times its volume when it is vap-
orized. When placing the evapora-
tion basins, figure on having one
square foot of surface of liquid to
every 25 square feet of floor surface.
Close every opening in the room but
one, pour out the liquid in the pans
as quickly as possible; get out and
close the last opening. Do this work
Saturday evening before it is neces-
sary to use a light and let the room
remain tight for 24 hours. Two
hours ventilation will make it safe
to work in the building. It is im-
portant that not even an electric
light be used or any electric machin-
ery as the smallest spark will ex-
plode the gas.

Where insects are in seeds con-
tained in sacks, pumping the fumes
into the top of the sack with any of
the bisulphide pumps will kill all
that the fumes come in contact with,
in a few minutes. We have tried it
on onion sets covered with aphis and
one or two strokes into a paper bag,
killing every insect before you could
count ten.

The best way to keep bisulphide of
carbon in small quantities is in glass
jars with screw tops and rubber
bands. Cans in which the liquid is
usually bought, are not air tight af-
ter having been opened. The com-
mon screw tops usually get bruised
when opened the first time. The
liquid is heavier than water and evap-
oration can be entirely cut off in an
open vessel by pouring water on top
where it will float. This method is
neither desirable nor practicable.

ORCHARD IRRIGATION.

Now that the irrigation season is
on, it may be well to call attention
to the fact that trees and plants are
as easily injured by too much water
as by the lack of it. And observa-
tions made by careful or-
chardists, the county horticultural in-
spectors, as well as by the workers
at the Agricultural College, go to show
that more permanent damage is done
to orchards in this State by over-
watering than by any other one
cause. The writer was present at a
fruit growers' meeting several years
ago when this subject was discussed,

and all were unanimously of the
opinion that they could not get along
with less water than they were then
using. But at that very time, land
in that vicinity was becoming seeped,
and the area involved has steadily
become worse.

Subsequent investigations have
shown that the main source of the
surplus water has been from the ex-
cess used by the owners of the land.
This goes to show that it is easy to be
deceived in regard to the condition of
the soil. External appearances will
not suffice, so the careful irrigator
will be continually testing the condi-
tion of his land by digging down
into the subsoil in various portions
of his orchard. It is true that one
man cannot tell another how to ir-
rigate his land, but the cumulative
effect of bad management is soon ap-
parent.

Don't Over Irrigate.

There are many reasons why it is
easy to over irrigate. One of the
most common seems to be that the
average person likes to think he is
getting the worth of his money by
using as much water as possible. It
sometimes happens that there is dan-
ger of a ditch going dry early in the
season. When such a situation arises,
most persons will use as much water
on their orchards as they can get, no
matter whether it is needed or not.

Then there is also the tendency to
let irrigation take the place of culti-
vation, particularly in heavy soils. It
is easier and cheaper simply to let
water run than it is to cultivate. Unless
the ground is stirred at the proper
time after it has been watered, many
soils become hard, and it is difficult
to work them at all.

Soil Mellow If Treated Right.

When properly handled, any soil
which is suitable for orchard pur-
poses is always mellow and easy to
work. But when a soil becomes pud-
dled by over-irrigation and lack of
cultivation, it is difficult to bring it
back to its normal condition.

This subject is one to which too
much thought cannot be given, and
the better orchardists now strive to
use as little water as possible.—[W.
Paddock, Colorado Agricultural Col-
lege.

400 POUNDS WALNUTS PER TREE.

Walnut growers would do well to
visit the ranch of Capt. P. F. Adams,
of Tustin, if they wish to learn what
walnut trees 35 years old will pro-
duce in the way of a crop. Capt.
Adams has many trees that are es-
timated now at from 400 to 500
pounds per tree.

The principal point of interest is in
the extreme age of the trees. It goes
to show that a walnut tree under
proper conditions and care will pro-
duce enormous crops at 35 years of
age. In other words a walnut is not
a transitory proposition.

We may add Capt. Adams has lived
on the ranch for 30 years and the
place is not for sale.

A WALNUT-GROWING COMPANY.

The Willamette Valley English
Walnut Ranch Company has filed ar-
ticles of incorporation with the Sec-
retary of State at Salem. The com-
pany has a capital stock of \$20,000
and will have its local headquarters
at Mt. Angel. It purposes to engage
in the growing and marketing of
English walnuts.—Oregon Agricul-
turist.

General Agriculture

THE CARE OF FARM MACHINERY.

THERE is perhaps no other source of loss so great to the average farmer as that produced by lack of the proper care of farm machinery. As a general rule, the prosperity of a farmer may be estimated by the way he cares for his machinery. Poor care indicates shiftlessness, waste, lack of energy, and that the owner must necessarily buy more tools and implements in a short time. Good care, on the other hand, indicates prosperity, development, bank deposits and the buying of less machinery.

Buy a Hundred Millions' Worth.

The American farmer buys annually \$100,000,000 worth of farm machinery. According to statements made by different manufacturing companies, the farmer would not have to buy over one-half this amount of machinery, providing it received the proper care. A season without shelter detracts more from the value of farm machinery than the wear caused by its use during the same season.

Learn How to Adjust.

Every owner of farm machinery should be able to understand and properly adjust it. Every implement should be looked over carefully before it is used, to see that all bolts are tightened and all moving parts work freely.

Moving parts on new machinery frequently run hard on account of paint in the bearings. This paint can be easily removed by the use of kerosene, or one-half kerosene and one-half machine oil mixed. New machinery should be carefully examined every day, as bolts often work loose, or boxes may fit too tightly, causing them to heat. When the work with a certain machinery has been finished it should be thoroughly cleaned and all parts that are likely to rust should be carefully wiped with an oiled rag or waste. They should then be stored in a shed of some kind, rather than left in the corner of a field or under a tree where the chickens roost on them.

Good Care—Longer Life.

With good care and housing an ordinary grain binder on the average 160-acre grain farm will last from 12 to 16 years. In comparison with this, a binder doing no more work, without extra care or housing, will last but from 5 to 8 years. Records show that many farmers have kept their tools in constant use by good care for more than twice the average life of the machine.

A Few "Figgers."

We will assume that a farmer starts in farming with \$1000 invested in new machinery, and that if sheltered and well cared for it will last ten years, and if not sheltered, only five years. If the implements stand out in the weather it will cost another \$1000 to replace them at the end of five years. The compound interest on this amount for five years at 5 per cent amounts to \$276.28, or the total amount of money paid out for machinery with its interest amounts to \$1,276.28.

A good tool shed large enough for this machinery can be built for \$200. The compound interest on this amount for ten years at 5 per cent. equals \$125, or the shed may be considered to have cost \$325.60 at the end of the ten years. After paying for the shed, it leaves us, at the end of the ten

years, a balance of \$950.68 in favor of housing the machinery and the shed is perhaps good for ten years more use.—H. M. Bainer, Professor of Farm Mechanics, Colorado Agricultural College, Fort Collins, Colorado.

THE LAKE AND THE ASPHALT.

The standard asphalt of the world comes from the Trinidad Pitch Lake, located in the Island of Trinidad, British West Indies. This lake is described by Charles Kingsley, in his nursery literature, as one of the wonders of the world.

The deposit occupies a bowl-shaped depression, probably the center of an extinct volcano. It covers about 114 acres, is nearly circular in outline, and a little less than half a mile in diameter. The center of the lake is about three-quarters of a mile from the shores of the Gulf of Paria, and about 135 feet above the level of the sea.

The surface is hard enough, except in spots in the center, to bear the weight of carts and mules. It is necessary for one to keep moving, however; otherwise he soon sinks in the material, which, under the rays of the hot tropical sun, becomes quite soft.

About 100,000 tons of asphalt are taken out of the lake every year without making any noticeable difference in the quantity that remains. When asphalt is dug from any portion of the deposit, in the course of a few days the hole is again filled up by new material coming from subterranean asphalt springs, as inexhaustible as the water springs that form the Great Lakes of North America. Borings have been made to the depth of several hundred feet, in an unsuccessful effort to find the bottom of the lake. The constant motion of the asphalt made it impossible to go deeper.

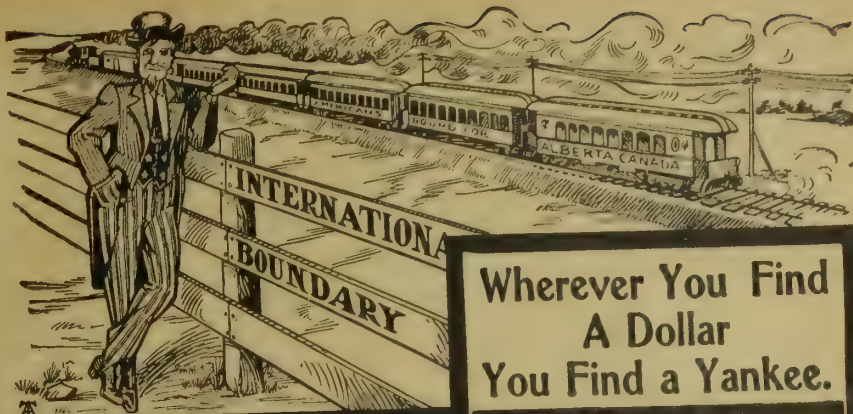
The composition of the asphalt is of remarkable uniformity, no matter from what portion of the lake it is taken. Samples taken 135 feet deep at the center do not differ in composition from those taken from the surface a few feet from shore. This shows the uniformity of the whole mass.

The asphalt is in constant motion. There are on the surface of the lake a half dozen or more islands, from fifty to 150 feet in diameter, bearing vegetation, with trees thirty to forty feet high, and a dense undergrowth. These islands move or float about—almost imperceptibly, yet constantly changing their position. From levels which were taken in 1893 and 1894, it appears that the center of the lake is a foot higher than the edges. This is due to the ebullition of the soft asphalt near the center.

The asphalt is dug with picks or mattocks. It is not sticky, like refined asphalt, because of the quantity of water it contains. This water is entirely removed in the process of refining. The crude asphalt is loaded into cars and transferred to ships over a pier 375 feet long.

Trinidad Lake asphalt is recognized by all experts, and especially by the greatest expert. Mr. Clifford Richardson, director of the New York Testing Laboratory, to be the most uniform and best asphaltic product ever discovered. The stability of this asphalt is remarkable. It is practically unaffected by the elements, and, when specially treated and combined with other natural asphalts, is the toughest, most viscous and longest-lived asphalt known. It is not affected by the drying-out process of the air.

This asphalt is used in the manufacture of the Genasco Ready Roofing made by the Barber Asphalt Co., of Philadelphia and San Francisco.



Wherever You Find
A Dollar
You Find a Yankee.

And the Yankee usually connects with the dollar.

Hundreds of Yankees have found the dollar they were looking for on the rich plains of Sunny Southern Alberta, Canada.—They have not only found a dollar but they have found fortunes.

There never was such an opening for the farmer anywhere as is offered on the great irrigated tract of the Canadian Pacific railway in Southern Alberta.

Thousands of farmers are raising good crops in Southern Alberta without the help of irrigation but with its help the results are almost fabulous—Always plenty of water for crops and live stock.

All kinds of grain, root crops, live stock and poultry thrive and produce enormously in this fertile soil when a sufficient supply of moisture is furnished.

In the Canadian Pacific tract there are about 3,000,000 acres, one-half of which will be irrigated when the project is completed.

Thousands of acres are now under irrigation ditches and are being offered for sale at prices so low that every man should have a farm.

In a few years more the low priced land will be gone—settlers are entering the last great west in hundreds and thousands—Prices of farming lands are bound to rise by leaps and bounds and the man who buys now in the right spot is the man who will reap the harvest of dollars.

The right spot is the great irrigated tract of the Canadian Pacific and anyone who takes the trouble to write and find out about it cannot help but acknowledge that the best opportunity for investment in farming lands is here.

We don't ask you to buy until you are thoroughly satisfied—The only way you can be satisfied is to send us your name and address and let us tell you how to visit this favored locality at small expense and see for yourself.

Canadian Pacific Irrigation Colonization Co., Ltd.

Calgary, Alberta Canada.

60 Ninth Avenue, West,

Sales Department, Canadian Pacific Railway, Irrigated Lands.

10

Cheapest Arsenate of Lead

On the Market

"ORTHO" BRAND for control of Codling Moth and other fruit and leaf eating insects. Packed in 40 pound tins. Price 12 cents a pound. Every Can Bears a Guarantee Against Burning Foliage Address

Watsonville Spray Chemical Co.

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Watsonville, Cal.

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Popular Prices

VIA THE

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SALT LAKE

CITY

FOR INSTANCE

YELLOWSTONE PARK

THE AMERICAN
WONDERLAND

Both ways via Salt Lake City \$70.00. Going via Salt Lake and returning via Portland and San Francisco \$85.00. On sale daily until September 10 from San Bernardino and west.

OR THESE

BOSTON.....	\$109.50	CHICAGO.....	\$72.50
DULUTH.....	72.50	KANSAS CITY.....	60.00
MEMPHIS.....	67.30	MINEAPOLIS.....	70.00
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ST. LOUIS.....	67.50	ST. PAUL.....	70.00
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NORFOLK, VA., JAMESTOWN EXPOSITION \$97.75			

On sale at all Salt Lake Route stations in California and Nevada on July 3, 4 and 5; August 8, 9 and 10 and September 11, 12 and 13. Good to return within 90 days from date of sale. IN ADDITION WILL BE SARATOGA, on account of KNIGHTS TEMPLAR CONCLAVE. On sale July 1, 2, and 3. Return limit 90 days. \$90.90. Going or returning via New York City \$98.25. PHILADELPHIA, on account of ELKS CONVENTION. On sale July 9 and 10. Return limit 90 days. \$90.50. Full particulars about diverse routes, stopovers and other matters, and especially the excellent service of the Salt Lake Route, may be had at any ticket office, or by addressing

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Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for
Curb, Splint, Sweeney, Capped Hock,
Strained Tendons, Founder, Wind
Puffs, and all lameness from Spavin,
Rings and other bony tumors.
Cures all skin diseases or Parasites,
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Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism,
Sprains, Sore Throat, etc. It is invaluable.
Largest bottle of Caustic Balsam sold is
Warranted to give satisfaction. Price \$1.50
per bottle. Sold by druggists, or sent by ex-
press, charges paid, with full directions for
its use. Send for descriptive circulars,
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The Lawrence-Williams Co., Cleveland, O.

The Cream of Cream Separators

The Sharples Dairy Tubular is the
cream of cream separators—the pick
of the whole bunch. Supply can wait
low, you can fill it with one hand. All
gears enclosed, dirt free, absolutely
self-oiling—no oil holes, no bother—
needs only a spoonful of oil once or
twice a week—uses same oil over and
over. Has twice the skimming force
of any other separator—skins twice as
clean. Holds world's record for clean
skimming.



Bowl so simple you can wash it in 3
minutes—much lighter than others—
easier handled. Bowl hung from a
single frictionless ball bearing—runs
so light you can sit while turning.
Only one Tubular—the Sharples. It's
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exclusive Tubular feature an advantage
to you, and fully patented. Every
Tubular thoroughly tested in factory
and sold under unlimited guaranty.
Write immediately for catalog J-250
and ask for free copy of our valuable
book, "Business Dairying."

The Sharples Separator Co.,
West Chester, Pa.
Toronto, Can. Chicago, Ill.

BERKSHIRE BOARS **FANCY POULTRY**
Pedigreed **HOLSTEIN and JERSEY BULLS**
Registered
Reliable Family Cows
Established 1876. Take advantage of our years of
experience. Correspondence solicited.
William Niles & Co.
Breeder and Exporters Thoroughbred Live Stock
Los Angeles, California

VENADERA HERD
OF REGISTERED JERSEYS
FOR SALE—RICHLI-BRED YOUNG
bulls from cow having High Official
Yearly Records. Also a few heifer calves
of best breeding. For particulars ad-
dress
GUY H. MILLER,
French Camp,
San Joaquin county, Cal.

For Sale Our Herd Bull
Sargent Fox, 64833

As we have dispersed our herd, except a few
heifers for home use, we are forced to offer for
sale this valuable sire. We will sell him at a low
price to a breeder who is in a position to give this
bull a chance to make a record.

Leffingwell Rancho, Inc., Whittier, Cal

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Thoroughbred Holstein Bulls and Heifers
Thoroughbred Berkshire Boars and Sows

Thoroughbred Poland China Swine
Black Miners and Barred Rock Poultry
High Grade Stock of Best Strains.
Young Stock For Sale.
M. Bassett Hanford, Cal.

Live Stock and Dairy

CALIFORNIA DAIRYING.

Continued from Last Week

THE dairymen have come today
to believe the big seven day
test of a cow or even the large
yearly records is after made at the ex-
pense of the cow's vitality. A good
average result over a term of years
makes a safer stock for breeding
purposes. Often these great records
have really little more value to the
dairyman than the records of the
race horse had to do with the ordi-
nary roadsters. It is possible to pro-
duce butter at too great a cost to both
the cow's vitality and of feed. Often
a cow will readily make two pounds
of butter a day for a long period on
a little grain while if fed on con-
ditional foods or oil cakes at a
higher price, she will make eighteen
to twenty pounds of butter in a
week. These extra few pounds of
butter may cost as much for feed to
produce as the first fourteen, and
therefore are not economical.

Choice of Breeding Stock.

Further, the vital energies of the
cow has been sapped. The breeder
of fine cattle that is also a dealer
may once in a while be willing to
sacrifice a cow to build up the reputa-
tion of his stock, but this is not
legitimate dairying as we understand
it, but cattle raising and selling. The
sons of cows that have been forced
for records should be carefully viewed
before purchasing to head herds. If
the dam was a strong, well-balanced
animal the chances are the youngsters
will hand down her qualities, but if
the dam is irregular in form, she is
probably a freak and it is well to
be careful not to pay too high a price
for the son until it is proven that he
will transmit the good qualities he
has inherited.

It requires solidity of type to trans-
mit well. When a type is broken we
find the variations to occur that are
widely apart. It is on these variations
that Mr. Burbank works in the vege-
table world to produce his new flowers
and fruits. Now, if vegetable life
shows so many changes how many
are those of animal life? In the cow
the variations are not in the life of
the cow but in the different offspring.
One son of a great cow may transmit
her qualities perfectly while another
may be worthless. Usually, the
daughters of a great cow are not as
great as the dam but on her sons the
heritage falls heavily, the transmission
going through the sons to the grand-
sons.

Disease.

The stamping out of disease among
cows as lumpy jaw, anthrax,
tuberculosis and Texas fever, are only
a matter of time for the dairyman
who is fully awake to the necessity.
Tuberculosis is most to be dreaded
from its insidious character,
not only as a danger to human life,
but as the dairyman sees it, from the
financial side. It is a serious matter
to see the work of years, the selec-
tion and breeding that has cost
thought and worry wiped out. It hurts
to see the cows go down under the
tuberculin test, for a dairyman feels
his cows to be a part of himself, for,
in a way, he feels he has been able

to create them, and there is nothing
of as great value as that which we
create for ourselves—the joy of self-
expression comes in there.

Testing Cows.

The dairyman must test his cows
and only introduce tested cows into
his herd. The dread of publicity has
kept many dairymen from having
tuberculin used. The fact that it is
news makes every country newspaper
ready to print it. It also makes the
local health officer very important in
his own eyes. The dairymen destroys
the cows he thinks diseased and puts
them under the poppies and says noth-
ing whatever about it. This is now a
thing of the past for the university
has come to the dairyman's aid. The
University says to a group of men that
are interested, to gather together, and
then the University will send a repre-
sentative, from Berkeley, with the tu-
berculin to instruct the dairymen in
the making of the test. The univer-
sity asks in return that these men
will in turn instruct others.

The tuberculin will be furnished
free and the users are required to fill
out the record sheets, returning them
to the university for purposes of mak-
ing statistics. Surely, we will all rush
to grasp this opportunity. I had for
a time the only tested herd in the
State. I found it paid well, for if the
herd is once free it is a simple mat-
ter to keep it so. Cleanliness and
fresh air with abundant food will keep
cows thrifty. Tuberculosis is always
brought into a herd, it is never self
induced. We all know that no wheat
or barley will appear on the land with-
out the seed has fallen there. We all
know as the good book tells us the
seed sown in stony places is lost. The
same is true of the bacilli of tubercu-
losis; make the soil barren by making
the cows healthy and if the tiny bacil-
la is around them it will not take
hold of their system—they are im-
mune.

New Blood.

The common herds in California are
needing the introduction of dairy blood
by the way of the pure-breed sire. It
does not matter which breed is chosen
only after choosing stay by the breed.
Wabbling from breed to breed in ex-
pectation of catching all the good of
each breed and skipping all the un-
desirable qualities is merely the phan-
tasy of a childish brain. The dairy-
man that breeds first one way and then
another way, like other men, he is
punished by his sin not for them.
Eternal vigilance is said to be the
price of liberty and it is also the
price of everything worth having in
this world. Nature will not allow
cross-cuts on her ways. She cares
nothing at all about your aims she
only cares to preserve the species and
therefore favors the physical or lower
side. Milk and butter production are
refinements or brain power in cow and
are easier to breed out than to breed
into the cows. In cattle, always
try to increase the inheritance along
the line desired by using sires strong
in the desirable qualities.

In mixed cattle or grade cows if a
sire no better than themselves is used
the "no account" qualities make up
the greater part of the inheritance.
These naturally crop out strongest. It

See us for Sanitary Milk Bottles...O. J.
Weber Co., 555-557 S. Los Angeles street,
Los Angeles.

CONGO ROOFING

Samples are the best kind of
information if they are fair
samples—not selected pieces.
When you buy Congo, every inch
of it is the same as sample. No
thin spots, no weak places, no
torn edges, no faults anywhere.
That is because we inspect it so
thoroughly when it is made and
pack it so carefully when it is
shipped. That's why Congo
never leaks. It's all good.

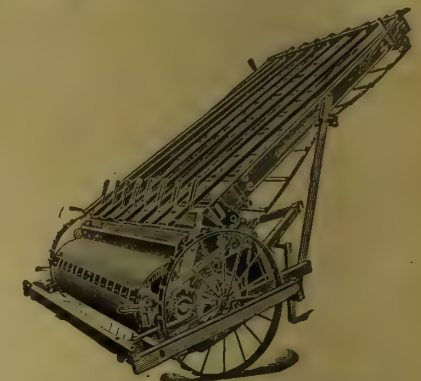
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Bldg., Philadelphia
Chicago and San
Francisco

Send
for
Free
Sample

The Easy Running, Single Cylinder
Combined Swath and Windrow

CLEAN SWEEP HAY LOADER



The Original Swath and Windrow Machine.
With one simple Racking Cylinder it gets
all the Hay and nothing but the Hay!

Why the Clean Sweep?

Because it will divide a swath.
Because it works well after a tedder.
Because it is the lightest draft loader made.
Because it does not pound or thresh the hay.
Because it does not kick itself to pieces in a
season.
Because it is impossible for its raking cylin-
der to wind.
Because it does not bunch, wad, or tangle
the hay.
Because it is one of the greatest labor-savers
of the century.
Because it handles windrows of reasonable
size perfectly.
Because it does not elevate trash and manure
with the hay.
Because the "Clean Sweep" Carrier can be
raised as the load enlarges.
Because it may be easily detached from the
rack by the men on the load.
Because it works on ground hilly or level,
in windy or calm weather.
Because the "Clean Sweep's" Carrier is readi-
ly removed to make the machine compact
for winter storing.
Because it is simple in construction, light
running, easy to operate, compact and du-
rable.
Because it does not cause you heavy repair
bills.
Because it will pay for itself with the sav-
ings of the first year's use; many times it
will pay for itself in one day in amount of
hay saved which might otherwise be dam-
aged by rain.
Because it goes from light swath to win-
drow work, or vice versa, without any
change in adjustments, the carrying capa-
city of the machine being automatic, and is
regulated entirely by the hay itself.
Because nothing but high-grade material and
workmanship are used in its construction.

Write for descriptive catalogue.

Pacific Implement Company
133 to 153 Kansas St., San Francisco, Cal.

Live Oaks Farm

Frank A. Meacham, Proprietor.
Importer and breeder of RED POLLED CAT-
TLE, SHROPSHIRE SHEEP, RAMBOUIL-
LET SHEEP, HORNLESS AMERICAN MAR-
SHINO SHEEP. Both sexes for sale. Take
electric car at Petaluma or Santa Rosa for
LIVE OAKS STATION. Address all mail to
Petaluma, Sonoma Co., Cal.

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PEABODY WALL CO., COMPTON, CAL.

Thoroughbred Jersey Cattle
Berkshire Swine
Young Stock For Sale
Santa Ana Car to Lugo.

The Whiting Jersey Stock Farm Company
Is making the very best strains of blood from
the island of Jersey a specialty.
Whiting Jersey Stock Farm Co., Heber, San Diego Co., Cal.

John Lynch Breeder of
Registered **Shorthorns**

MILK STRAIN

P.O. Box 321

Petaluma, Cal

When writing advertisers, mention Cultivator

is survival of the worthless. With a few crosses of good blood in a little time the cows become of a type and can be handled as one. Go out and look at your herd and if there is not a distinct type running through it, then you have been at sea in breeding. Today, I can often tell from the train window the offspring of my cattle even in the third generation. They have the stamp I placed on them by selection of their ancestors. This is the art of cattle-raising and art has been defined as the beautiful way of doing things. A uniform herd is a beautiful one.

Immature Stock.

Breeding too young and weakening the constitution is a further fault that is eating into the vigor of our registered herds. So universal has this custom become in a short sighted policy to increase the number of calves, not the quality, that I can only hope that some day the cattle association will refuse to register the calves from immature cows.—M. E. SHERMAN.

SOME RECENT TRANSFERS.

Recent transfers of California Holsteins are as follows:

Cows:

Contenta, Damisela, Electa E, Hermana A, Modesto Nydia, Modesto Zenobia, Dr. C. W. Evans to L. A. Hall, Modesto.

Calliope of San Martin, F. H. Burke to H. S. Hersman, San Martin.

Countess of Riverside, Chas. D. Pierce to Curtis H. Lindley, San Francisco.

Jennie of Riverside, Chas. D. Pierce to Curtis H. Lindley, San Francisco.

Contenta, Damisela, Electa E, Hermana A, Modesto Nydia, Modesto Zenobia, Dr. C. W. Evans to L. A. Hall, Modesto.

Calliope of San Martin, F. H. Burke to H. S. Hersman, San Martin.

Countess of Riverside, Chas. D. Pierce to Curtis H. Lindley, San Francisco.

Jennie of Riverside, Chas. D. Pierce to Curtis H. Lindley, San Francisco.

Bulls:

Peter Pan Pieterje, Enoch J. Fargo to Leland Stanford Jr. University, Stanford University.

Chrystenah King Paul De Kol, Charles J. Welsh to J. G. Nims, Newman.

Edgetown Hengerveld De Kol, Enoch J. Fargo to Leland Stanford, Jr., Stanford University.

Ignaro De Kol, C. W. Evans to L. A. Hall, Modesto.

Jetze Hengerveld of Riverside, Charles D. Pierce to Curtis H. Lindley, San Francisco.

Sir De Wit Hartog Paul De Kol, Charles J. Welsh to E. G. Miller, Dos Palos.

Chrystenah King Paul De Kol, Charles J. Welsh to J. G. Nims, Newman.

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Sir De Wit Hartog Paul De Kol, Charles J. Welsh to E. G. Miller, Dos Palos.

There is a gain both in quality and quantity of butter by churning as soon as the cream is ripe.

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

WAGING WARFARE NOW.

The dairy interests of the country will probably have to defend their position before the next Congress. The oleo interests are pointing to the present high prices of butter and claiming that the blow given the oleo business by the 10-cent federal tax is mainly responsible. These views they will probably take to Congress next year. The butter men explain and justify the high butter prices on other grounds; nevertheless, it is for them an unfortunate coincidence that butter has ruled high ever since the enactment of the federal law.

The 10-cent tax law unquestionably struck the oleo industry a staggering blow. The oleo output for the year ending June 30, 1902, was 126,316,000, while for the year ending June 30, 1906, it was only 53,146,659 pounds, a shrinkage of over 50 per cent in four years! Much of this business has unquestionably gone to butter, because there is nowhere else it could go. And that this has at least had some share in holding up prices cannot be denied.

Nevertheless, the consuming public should be willing to pay even more than this for practical immunity from oleo.—The Grocery World.

RESULTS OF OFFICIAL TESTS OF JERSEY COWS.

It is now just four years since the American Jersey Cattle Club promulgated its rules in regard to records of performance entitling cows to entry in the Register of Merit. To May 1, 1907, one hundred and fifty-nine fat tests for one year have been completed and reported; also, seventy-four fat tests for seven days and forty-eight confirmed butter-tests for seven days are on record. In the case of these butter-tests, the records of churned butter are verified by Babcock tests of the milk. The results of these tests for one year show that the average amount given to the two-year-olds was 5882 pounds of 5.413 per cent milk. Cows under two and one-half years, 29 tests being made, 6517 pounds of 5.39 per cent milk. Cows under three years, 24 tests, 7138 of 5.365 per cent milk. Cows under three and one-half years, 30 tests, 7516 pounds of 5.299 per cent. Cows under four, 9 tests, 7379 pounds of 5.432 per cent milk. Cows under four and one-half, 13 tests, 7846 pounds of 5.578 milk. Cows over five years, 33 tests, 9228 pounds of 5.334 per cent milk.

The average of all cows (159 tests) was 7639 pounds of 5.364 per cent milk.

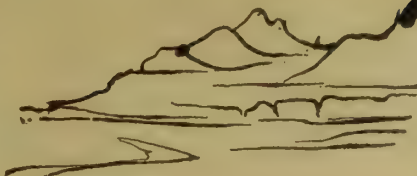
THE KIND OF A COW.

A cow that will produce 300 pounds of butter fat in a year is a good one. Some farmers are boarding cows that do not produce half of that. But some farmers demand at least 400 pounds and get it. There are some also who get 500, 600 and over 700 pounds a year. It is only the same work to feed a 700-pound cow as to feed a 200-pound critter. Which is better?—N. W. Agriculturist.

Milk may be poisoned through bad air drawn into the lungs of a cow, as the bad odor will affect it in the pail after being drawn from the cow.

Rustling for a living may make hardy stock, but it makes small milk checks.

Veterinary Instruments, Black Leg and Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

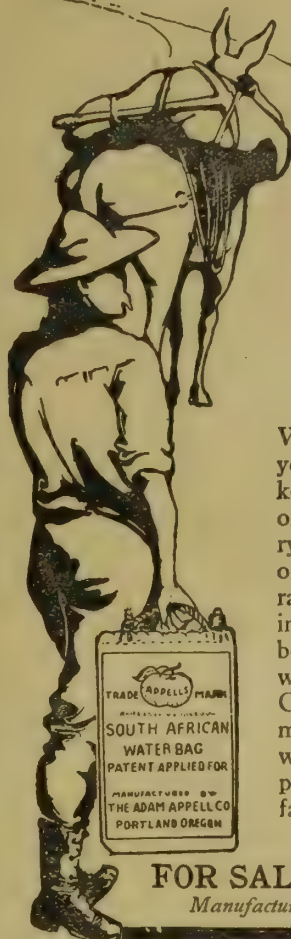


Last but not least be sure and have a supply of pure cool water.

APPELL'S SOUTH AFRICAN WATER BAG

(PATENT APPLIED FOR)

Will supply a cool, refreshing drink, wherever you go—on business or on pleasure bent. It keeps water cool 48 hours or longer; in sun or shade; no ice; light and convenient to carry. It is a welcome convenience to prospectors, surveyors, travelers, sportsmen, miners, rangers, stockmen, farmers, timbermen, threshing crews, millmen, railroad men, teamsters, boatmen and everyone exposed to dry, warm weather where good water supply is uncertain. Can be hung on pack, saddle, vehicle, implement, on a tree, or laid on the ground. It will keep the water cool under all conditions, provided the bag is exposed to the air. Satisfaction guaranteed or money back.



FOR SALE BY DEALERS EVERYWHERE

Manufactured by The Adam Appell Co., Portland, Oregon

MILK COOLERS

It is getting **hot**; you need a **cooler**. Write us for prices. Cream Separators, Simplex Combined Churns, Pasteurizers, Ripeners, Engines and Boilers. We supply everything used in a Dairy, Creamery or Cheese Factory.

Simplex Cream Separators

O. J. WEBER CO.

Manufacturers and Importers of
Machinery and Appliances for Dairy
and Creamery

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De Laval SEPARATORS and APPARATUS Make Cows Profitable

SPECIAL PRICES ON SEPARATORS will interest you. We will tell you about them and send you a Beautiful Calendar if you will state the number of cows in your dairy and name of separator you are now using, if any : : : :

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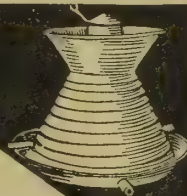
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Milk Cooler and Aerator

The hot weather is coming and you must have a cooler. The **Perfection Milk Cooler and Aerator**

is simply perfect, and perfectly simple. Nothing quite so good. The cost of running machine is a mere nothing. We make it large enough to accommodate a dairy of 60 cows. For full particulars address

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Pasadena, Cal., May 22, 1906.
West Coast Stock Food Co.

818 San Fernando St.,
Los Angeles

Gentlemen:—I take great
pleasure in recommending to
gardeners your

KILLAMITE

I found it sure death to all plant
insects without injury to the
plants. I also use it in my poul-
try yards and know its use
among poultry cannot be beaten.

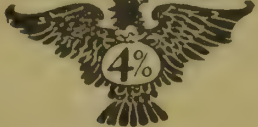
Yours truly,

FRED ESTERWOLD,

Public Gardener and Breeder of
Prize Winning Buff Rocks.

In sifting cans, 25c and 50c by
mail, if your dealer doesn't keep
it. For spraying in and about
the poultry house **West Coast
Lice Killer** can't be beaten.

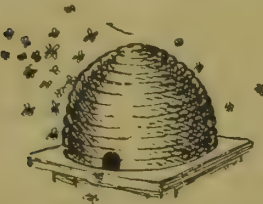
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SURE CURE FOR PILES

ITCHING Piles produce moisture and cause itching.
This form, as well as Blind, Bleeding or Protruding
Piles are cured by **Dr. Bosanko's Pile Remedy**.
Stops itching and bleeding. Absorbs tumors. 50c a
jar at druggists or sent by mail. Treatise free. Write
me about your case. DR. BOSANKO, Philada., Pa.

The Ornamental Garden

BULBS.

BULBS do not receive the atten-
tion that their beauty justifies.

Many have no use for them, more
have them in the garden where they
receive indifferent or no attention
and their fullest beauty is not de-
veloped. A great many of the more
hardy ones are easily cared for and
give magnificent returns. We have
seen a bed of seedling gladiolus or
amarillis which brought in the neigh-
bors to stand in admiration.

We hope Mr. Morris's article, which
appears on first page of this issue,
will attract attention to these
beauties which may be added to our
gardens and more of them may be
planted.

DAHLIA.

Dahlias are the most perfect sum-
mer blooming plant that I have in my
collection, and the admiration of all
who see them.

Secure the bulbs in February and

to those who would plant it for prof-
it, is that at least 75 per cent of the
seedlings are barren, some of them do
not bloom at all, and of the remain-
ing 25 per cent, some bear fruit with
so little meat covering the large seed
that they are of little value. These
different seedlings (the writer knows
of no budded or grafted trees,) bear
fruit differing in size and shape, the
meat varying in thickness from a
quarter of an inch to an inch. The
shape is of no value, but the edible
part is. A deep sandy loam soil
seems to produce the most luxuriant
growth, but the trees that have pro-
duced the most fruit are growing on
heavy clay soils; yet this productive-
ness may not be due to soil, but
the nature of the tree. It will stand
eight degrees of frost without injury,
and requires plenty of water during
the summer for its best development.
In our fertile soils the question of
manure is not yet considered. So
far as a money-maker is concerned,



Calla Lilies

plant in boxes until growth begins,
then set in rich soil where the sun
gets to them all the day, and keep
well watered and the bloom will be
grand from middle of April to Au-
gust, and such variety and style that
they attract all flower loving people
that see them.

The style and form are in great
variety, from pure white to deep
red and mottled, and from single to
full double, variegated mottled pink
of the richest color. The dahlia
revels in the hot sun and the bloom
is so abundant that one may cut
flowers every day for three months.
A dozen bulbs will give more satis-
faction than any other one variety
of plant in my knowledge.

Besides growing them from tubers,
which are expensive, the single vari-
eties are easily grown from seed
sown in boxes early in spring. The
double varieties, are also easily grown
from seed, but the result is much
more uncertain. That is, the seed-
lings are quite liable to be only semi-
double and of little value for culti-
vation.—Florida, Agriculturist.

THE ALIGATOR PEAR.

Some facts relative to Persea gra-
tissima, aligator pear, that have come
under my observation during the two
years past may be of interest to
your readers. It is the most delicious
of all the fruit grown in this part of
the country, and retails in our mar-
kets at fabulous prices—\$3 to \$9 per
dozen fruit. One tree near Los An-
geles produced \$137 worth last year.
One fact, and a most important one

it beats walnut orchards and orange
and lemon groves—the staple pro-
ductions of Southern California—16
to 1, but planters must bear in mind
that stock propagated from fruiting
trees is the only kind that will pay
for the time and expense necessary
to bring an orchard into bearing.
The seed germinates better in soil
than it does suspended in water—a
method one occasionally sees prac-
ticed in green-house establishments.
The writer is experimenting with ripe
wood cuttings under glass. No in-
sect pest or disease has yet affected
any trees growing here, and there
are some large ones. The largest one
never blooms.—P. D. Barnhart in
Florists Exchange.

POISON IN FLOWERS.

Beautiful as flowers appear to the
eye, there lurks behind their attrac-
tiveness certain death. They may
be handled with impunity and their
odors enjoyed without any danger,
but let any one taste the juice of
some of the sweetest and with every
drop he is taking deadly poison into
his system. Even the bulbs of such
dainty flowers as the Snowdrop, Nar-
cissus, Hyacinth and the Jonquil are
poisonous.

The Oxalis also is not a safe thing
to put between the lips, and all the
Lobelias will produce dizziness and
general disease. The Monk's Hood
and the beautiful Foxglove are nox-
ious affairs, from which powerful
drugs are obtained, more than a few
drops of their extracts being usually
a fatal dose.

Certain of the Crocuses if eaten,
even if nothing is swallowed but the
juice, produce vomiting. The bulb
of the intricately beautiful Lady's
Slipper poisons externally as the
noxious Ivy, Dogwood and Sumac.
The quaint old Jack-in-the-pulpit, al-
though not a garden plant, is another
enemy to health and life, and so also
is the marvelous Queen Anne's Lace,
which now and then will creep in
through the paling and looks so en-
chanting when far and wide it em-
broiders field and roadside.

The laughing little Buttercup, that
might be a drop of visible sunlight,
is by no means as innocent as it
looks. The cow in the pasture knows
enough to avoid it. That and all its
cousins, the rich, profuse Peonies,
the dazzling blue Larkspurs and the
rest are full of toxic properties.

The oleander tree that is set out-
doors when spring comes and that
lines the streets of various of our
Southern cities, is another hive of
deadly poison.

The superb Catalpa tree, towering
with its great leaves and its masses
of white and fragrant flowers, is a
charming thing in the garden, but
its bark is exceedingly injurious, and
the Laburnum, that looks like a
fountain of gold leaping into the sun,
is poison in leaf and flower and seed,
and even the grass beneath it is best
thrown away when cut instead of be-
ing fed to cattle.—Exchange.

"THE BEST I KNOW OF."

The Cultivator is always glad—or
rather it appreciates it as a kindness
—when a subscriber writes in and
criticizes its failings. We like to
make the effort to make the paper
come up to the requirements of every
subscriber. So send in your criticisms.

Likewise, very often subscribers
send in commendation of our good
points. It's appreciated, but not so
necessary as that we shall be re-
minded of our failings.

In the class who see the good
points is F. McClellan of Hanford,
who writes:

"The Cultivator is the best farm
paper I know of and I hope it will
continue as good in the future as it
has been in the past."

Bille's Gopher Poison

In a class by itself. They hunt it—
it kills them. Two large bottles for
\$2.50 express prepaid by us, if your
dealer doesn't keep it. Money re-
funded if not as represented. Circular
with many testimonials. Made
under Bille's patent by

West Coast Stock Food Co.
818 San Fernando St. Los Angeles, Cal.

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Plant Now

Strong, Field-Grown Roses

56 Varieties

To Select From. Price, \$2.50 to
\$3.50 per Dozen, according to size.
Write for List—it's free.

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Seedsman and Nurseryman

345 S. Main St., Los Angeles, Cal.

Morris & Snow Seed Company

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The new seed store. Everything fresh. Head-
quarters for Eucalyptus Tree Seed and the best of
Vegetable and Flower Seed. Send for Catalogue.

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NITRATE OF SODA

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Is the highest grade ready to lay roofing manufactured. It is suitable for covering warehouses, mills, barns, sheds, business blocks, office buildings, residences, etc.

The standard by which all ready roofing must be compared is Malthoid—there is no

"just as good kind"

on the market.

Send for booklets.

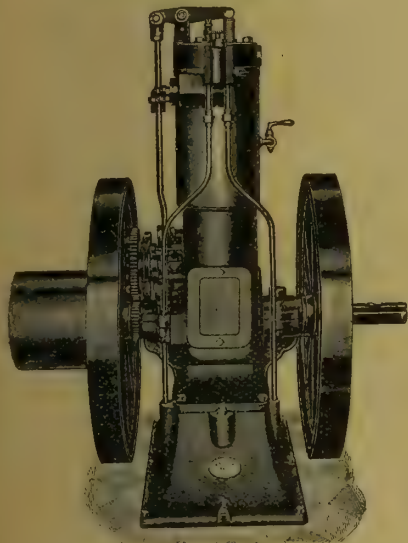
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Los Angeles Office
313 North Los Angeles Street

The "Stover"

for Simplicity



2, 3 and 5 H. P. Vertical
5 to 60 H. P. Horizontal

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Tomato Plants Cheap

We have a surplus stock of

20,000 Strong Ponderosa,
Trophy and New Stone
Tomato Plants

that we will close out at very low prices.
Write for quotations—'twill pay

Chas C. Navlet Co.
San Jose, Cal.

Strawberry Plants

500,000 each of Brandywines and Excelsiors ready for August planting. My plants are thoroughbred—the only kind its worth while to plant. Brandywines, \$2.50 per thousand; Excelsiors, \$3.00 per thousand. Other varieties later with a full line of small fruit plants. Catalogue ready about September 1st., which I will gladly mail to all who will send their address and mention this paper.

G. H. Hopkins, Burbank, Cal.
Fairview Farm Nursery

The Vegetable Garden

GROWING FALL POTATOES AND FERTILIZER FOR THEM.

A SUBSCRIBER writes for information as to soil, plowing, irrigating, etc., for fall crops of potatoes and also as to fertilizer for crops on light, sandy soil. The question has been referred to Mr. Q. A. Lobingier of the San Gabriel Co., who answers:

Good Soil and Plenty of Moisture.

In attempting to grow a fall crop of potatoes in California it must be borne in mind that the crop has to be grown during the most trying atmospheric conditions we have, and it is therefore essential that care is had in the selection of suitable soil. Avoid heavy, compact soil, such as bake after irrigation. As a rule, adobe soil is not well suited for potatoes. Having selected suitable soil, if it is not moist enough it will be necessary to irrigate it thoroughly before plowing. In well-drained mellow soil, there is not much danger of getting too much water into it before beginning operations. After you are sure the land has been well dampened, the preparations for planting is pretty much like that which is found anywhere the world over—thorough plowing and harrowing so as to make a good seed bed for the crop. Almost every locality has its detailed method of planting and each one can follow that best suited to his local conditions.

How John Does It.

While the Chinese are not always a model to follow as to methods, sometimes we find them pursuing ways that are both expeditious and effective. They use a single shovel-plow to furrow out the ground, making the furrows about two and a half feet apart, the cut potatoes are dropped in these furrows about 10 or 12 inches apart and covered by going between the rows with this same shovel plow, and following that with a common planter—this does not altogether obliterate the furrows so that very little work is needed to prepare the ground for irrigation, when the plants need it.

Irrigation.

I can lay down no better rule as to the number of irrigations than to say water should be given as often as is needed to keep the ground in fair condition—the crop will not grow well if allowed to get too dry, nor any better if kept too wet—the character of soil, the locality, thoroughness in cultivating are all factors that help determine the question of irrigation.

Varieties.

As to varieties, I think any of our Los Angeles seedsmen could give a better answer than the writer. If new crop seed is used be sure that it has been well ripened.

Time of Planting.

As to the time to plant for a fall crop, it is difficult to name a date that will apply equally well to every locality. In localities that are nearly free from frost the time of planting can be safely delayed longer than where early frosts occur. In this locality I should wish to plant not later than the second week in August—two weeks earlier would be safer.

To Prevent Scab.

Dissolve two and one-fourth ounces

corrosive sublimate in two gallons of hot water and then add water enough to make it 15 gallons. Wash your potatoes clean and soak them in this mixture one and one-half hours. Do not cut your potatoes until after they have been put through the sublimate and remember they are deadly poison to all animal life and must be carefully handled and all of them planted. In many localities it is not possible to grow a good crop without spraying with Bordeaux mixture as a remedy against blight. This can now be purchased from many of the seedsmen in a condensed form.

I would add that potato growing in California is a very uncertain matter in the hands of the careless or inexperienced and there is possibly more money lost in attempting it than in anything I now think of except the poultry business. But like the latter, with right conditions and careful, intelligent work, it will compare favorably with any other line of horticultural work.

Fertilizer.

Relative to fertilizer for potatoes on light, sandy soil I should use pure ground bone and sulphate of potash. Sow them broadcast over the soil after plowing and before harrowing. Use 1000 pounds of bone and 200 pounds of potash per acre. If these fertilizers are very dry and dusty it will not injure them to dampen them; if they are used at once and it is not an unpleasant job. I use practically the same method followed by the concrete men in dampening their concrete. Empty your fertilizer on clean hard ground and let one man apply water from the hose while another turns the pile over with a shovel; only sufficient water should be used to thoroughly dampen it. It must not be allowed to lie over a few hours in a pile (I refer now to the bone) or it will heat violently and much of the ammonia will be lost. If the potash is in hard lumps the water will soften it and it can be run through a screen and thus put in proper condition for sowing. I prefer to sow these fertilizers separately not because they would be injured by mixing, but it is easier to make the proper distribution over the surface than to do the same by mixing.—Q. A. L.

TO KILL RABBITS.

Mr. Ostergard, of Glendale, gives us the following, which he assures us will destroy rabbits to perfection:

"Rabbits and vines may be said not to go together, yet the fact is that they sometimes go too well together. To prevent this there is but one way to effectually save the vines. Dissolve a small vial of strychnine crystals in the juice of an ordinary lemon after first having powdered the crystals. When fully dissolved add water enough to make a half a pint. With a medicine dropper (cost 5 cents.) drop a drop on the tender leaves. Vinegar is as good a solvent as water, but it burns the vine where it touches, but the solution made by it has the advantage of keeping for a long time which is not the case with that made from lemons. It must be used while fresh, but has the advantage of not burning the leaves. Take your choice.

Riverside has a navel orange which weighs two pounds.

CABBAGE WORMS.

There are three kinds of worms that feed on the cabbage. The most common is the imported cabbage worm, another is the zebra caterpillar, and the third is the plusia. The imported cabbage worm is the most destructive of all three varieties. It is green in color, larger in its middle part and tapering at both ends.

The zebra caterpillar is a very brilliant worm whose body is marked with stripes of yellow and black. At first the worm is quite dark, but as it grows older it becomes lighter in color. When it is full grown, it is about two inches in length. When the plant is disturbed they roll up and drop to the ground.

The plusia is a pale-green worm. The color is striped, one stripe being quite light, while the next one will be a shade darker. The head is small and the body becomes larger as it approaches the rear end.

The same remedy will be effective for exterminating any of the three worms. However, it will need to be stronger for the plusia than for the others. Pyrethum, either the powder or the Buhach, is advised by a great many. For the imported worm, or the zebra caterpillar, six parts flour to one part of the powder should be thoroughly dusted on the plant. In fighting the plusia, use only three parts flour to one part pyrethum.

Another simple remedy, and one that has many friends, is the application of road dust. We know of several reliable gardeners who use this remedy, and we have every reason to believe that it does all they claim for it. The application must be thorough, so that all parts of the cabbage leaves and head are covered. Perhaps the most simple of all remedies is the use of boiling water. Put the water, boiling hot, in the watering can and pour it on the cabbage, allowing it to run down, over and between the leaves. It will not injure the cabbage, but is death to every worm with which it comes in contact.

NURSERYMEN'S CONVENTION.

We are in receipt from President Power of the full program of the Pacific Coast Nurserymen's Convention to be held at the same time as the Salem Cherry Fair, at Salem, Oregon, July 10-12. It is packed full of good things from a nurseryman's standpoint. Many speakers are from California and others are from Washington and Oregon.

HOW MUCH TO PLANT.

One pound of beans will plant a fifty-foot drill. One ounce of beet seed will sow fifty feet. An ounce of cabbage seed will make 2000 plants. One pound of corn will give 150 hills. An ounce of cucumber seed will make enough for 100 hills. One ounce of lettuce seed will give 5000 plants. An ounce of watermelon seed will be enough for thirty hills. A pound of onions sets will be enough for a 75-foot drill. One ounce of tomato seed should give 3000 plants.

Ants

Ants

Kellogg's Ant Paste

Settles them every time. Received highest award at State Fair. Insist on having the genuine with the hedge trade mark from your drug store or let us know

Kellogg Ant Paste Co.

1010 E. Ninth St., Los Angeles, Cal.

Note to Druggists—You can get this from your supply houses.

California Horticulturally

MARYSVILLE AFTER WHITE FLY.

THE cutting of the foliage of the White Fly infested trees progressed yesterday, great bunches of orange tree tops could be seen in the streets in front of many prominent residences, later to be hauled off to the crematory to be burned, says the Marysville Appeal. The city authorities have now taken a hand in the matter by announcing that all brush from the orange trees placed in the streets would be promptly carted away by city employees at no expense to the property owners.

One of the first orders received by H. P. Galligan, proprietor of the Pavilion stable, who is an experienced pruner and who has gone into the business of taking contracts to properly defoliate orange trees, was from Mayor Hall. The Mayor says his trees really need the treatment as he intends to make over his rather extensive orange grove to standard navel trees. It begins to look as though the majority of property owners now realize that it is really the proper thing to do to observe the State law, as laid down in the notices now being served by Constable Tyrrell; yet there is a minority of good folks who have not as yet "got wise" to the fact that Marysville, being the only place in the State where the white fly exists, can not afford to have it appear that she is harboring a pest that may actually ruin the citrus industry of the State; this minority still howling over the prospect of being compelled to go to work and clean up their trees have finally decided to fight, but they are mighty crafty about their fighting; they are going to give their case to an attorney on a contingent; if he wins, so much; no win, no pay.

Horticultural Commissioners Harney and Reed held a meeting yesterday and afterward announced that the law would surely be enforced. G. W. Harney said the commission would proceed strictly in accordance with the law as interpreted by the district attorney, and those who are promptly defoliating their trees could be assured that all would be treated alike. The State Commissioner has the right to say how the trees shall be treated; the law has been tried out many times in State and Supreme courts. Stirred up by the appearance of the white fly here, commissioners throughout the State now realize that the whole State has been too lax in the treatment of insect pests on orange and other fruit trees, and a new campaign is on for the destruction of all injurious insect pests.

Objections in Marysville are not well taken and will be overruled. The commissioners do not fear any injunctions and work will be pushed as rapidly as possible.

INTEREST IN IRRIGATION CONGRESS.

In all sections of the West a lively interest is being aroused in the coming interstate exposition of irrigated land products and forestry products, to be held in Sacramento in September in connection with the fifteenth session of the National Irrigation Congress. All those eligible to enter the numerous competitive displays for costly and handsome trophies hung up by the management of the exposition, are arranging for an adequate exhibit of fruits, cereals, vegetables and other products of irrigated land and forestry products in the several departments of the exposition. Inquiries are

pouring in at headquarters from many States for information and particulars concerning conditions and terms of the contest. That the display will exceed in magnitude and importance all previous attempts in that direction, is a foregone conclusion. The keen interest shown by those most vitally concerned leaves no doubt upon the subject.

Among the first to apply for space and facilities for a State display in the intersate exposition is Utah. The Legislature last winter appropriated \$4000 to cover expense of having Utah properly represented in the exposition, and no stone is being left unturned to have the wishes of that body carried out to the letter.—[Sacramento Union.

VALUE OF PLANT INTRODUCTION GARDEN.

At the National Plant Introduction Garden at Chico to date there have been 5200 varieties of plant and tree growth received at the garden, and these come from every corner of the globe, where special agents of the Department of Agriculture can reach. In alfalfa fifty-five varieties have been received, and are now under propagation at the garden. Of clovers there have been received between eighty and ninety varieties. The Japanese matting grass plants, the obtaining of which brought so much trouble to Special Agent Tull, have been planted in the open, and will be retained until next winter, when they will be transshipped to other parts of the United States, particularly Texas and the Carolinas.

An important experiment is being carried on with African para grass, and this may prove in time to be of the greatest benefit to certain sections of California. This grass is raised in some sections in preference to alfalfa, and being a much harder growth, has proven profitable. It is especially adapted to overflow sections, and in this particular may prove of value to California. Sulla grass, from the European countries, and a rival of alfalfa, is also being experimented with.

A surprising result has been obtained from a Chinese cherry. A scion was sent to the Chico garden by Explorer Frank Myers, from China, and it was grafted on another cherry tree. Long before there was any sign of fruit on the original tree this branch bore fruit, and thus afforded the first ripe cherries in California. In the line of sorghums, 380 varieties have been received, but of these only twenty-five have been used, so radical are the selections. These are doing well, and good results are looked for.

NUMBER EIGHT FARMER MAKES A DISCOVERY.

A farmer in No. 8 district has made a discovery that will be of vast importance to the other farmers of that section during the time they are without a water supply. He has found that by planting onions and potatoes in the same field and alternate rows, the onions being strong, bring tears to the eyes of the potatoes in such volumes that the roots of the vines are kept moist and a big crop of both vegetables raised.—[Holtville Tribune.

Bee stings, mosquito or gnat bites may all be relieved by bathing in borax water.



Does this stream of water look good to you?

It certainly does to the two men standing beside it. They are the President and Treasurer of the company to whom the plant belongs.

It is raising 40 inches of water from 250 feet below where they are standing. This water goes into a reservoir 18 feet above the pump through an 8-inch pipe-line about one-eighth mile long and you cannot see a pulsation in the discharge if you try. It has been doing this for over a year. There have been no repairs, not even new leathers, and it runs better, if such were possible, today than it did a year ago.

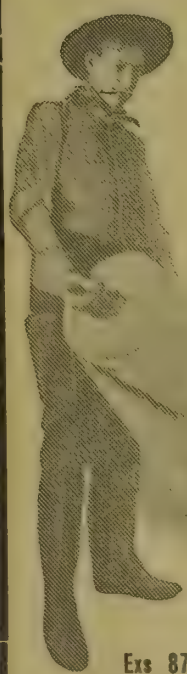
How many pump users can say this?

It shows conclusively that it pays to install good machinery.

We have done this for these people and we can do it for you if you give us a chance. Our catalog tells all about it.

Mail us a card asking for it today.

POMONA MANUFACTURING COMPANY
Corner of Bertie and Gibbs Streets **POMONA, CAL**



Irrigating Hose

PLAIN

1 1/4 inch.....	3c per ft.
2 1/2 inch.....	4c "
4 inch.....	5c "
6 inch.....	7c "
9 inch.....	10c "
13 inch.....	15c "

COATED

1 1/4 inch.....	4c
2 1/2 inch.....	5c
4 inch.....	6 1/2c
6 inch.....	8 1/2c
9 inch.....	12c
13 inch.....	17c

Further description sent on application.

Our New Tent and Camping Goods Catalogue
Now in the Works

The Wm. H. Hoegee Co., Inc.

Exs 87, Long Distance

138-140-142 So. Main St., Los Angeles

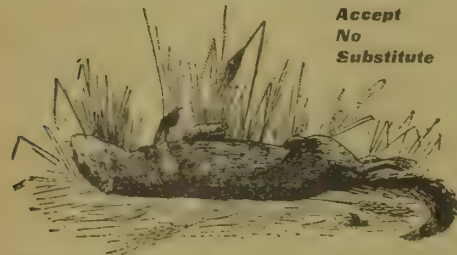
Kill-Quick SQUIRREL AND GOPHER POISON

Accept
No
Substitute

IT DOES THE WORK

Effectually Destroys these Orchard Pests
Ask your Dealer for it

Prepared by
WESTERN WHOLESALE DRUG CO.
LOS ANGELES, CAL.



New System of Irrigation Flumes

Made of 2-inch iron tubing with holes any desired distance apart. Easy to lay, requires no repairing.
Cheaper Than Wood Flumes

Will last for years. Can furnish in any quantity. We also carry in stock several thousand feet of all sizes of standard pipe, and a general line of second-hand machinery. Engines, Pumps, Hoists, Pulleys, and Belting of all kinds.

R. Kelly Machinery Co., Cor. Mission Road and Macy St., Los Angeles, Cal.

With the Citrus Growers

ACIDULATED PHOSPHATE.
THERE has been some discussion recently as to the advisability of using acidulated phosphate on our orange groves. We were given the credit, unintentionally, of saying that it was injurious to use this form of phosphate.

We have never had any such idea as we have never seen any evidence that would lead us to believe that it was injurious. We have a set of experiments in which green-manuring crops are grown on plots where acidulated bone is drilled in before the seed; and on adjoining plots are growing the same green crops without any phosphate. The nodules were just as abundant on the roots of the vetch and cowpeas growing on the acidulated bone plot as they were on the plots having no phosphate. We also have the same with acidulated rock and without phosphate. In all cases there is an abundance of the nodules on the roots. As far as can be detected, there is no difference in the appearance of the trees on the different plots.

The lemon growers of San Dimas grew much concerned over the report that leading citrus growers have found that acidulated goods were injurious to their trees. Mr. Mills of the Arlington Heights Fruit Company, has made a striking record of improving a large acreage or "run down" citrus groves. He has done it with fertilizers, including acidulated bone and rock and acidulated guano in conjunction with green-manuring crops. He tells us that he has this year used over one hundred tons of acidulated goods and will continue to use them. He claims that after using them for a number of years, he gets results so satisfactory that he can't afford to stop using them. Mr. Mills says he used about 150 tons this year on his groves and shall continue to use them. Until we know of some specific cases where acidulated phosphates have injured citrus trees, we will continue to think they are proper and safe to use. The cases referred to above are quite convincing that we need have no fear of acidulated phosphates.

A COMPLETE IRRIGATING SYSTEM.

The Citrus Experimental Station at Riverside, has just completed a very satisfactory irrigating system. The experiment grove lies on a slope of land that has a fall of about four inches to 20 feet. There are 20 plots in the main plantation, in each of which are 36 trees including a check row at the upper end of each plot. The plots are laid off with the idea of making fertilizer tests and the water system is so arranged that it does not flow from one plot to another. Each plot has a standpipe at the highest point. Two furrows are led out from this. The plots are but four trees wide and the irrigation furrows are made on the level, the only fall being at the turns made toward the lower furrows. This has proven to work satisfactorily. At the lower end of each plot the waste water, if any gets away, irrigates the check row at the upper end of the adjoining plot and is carried down to the side of the plantation where it drops into a pit from where it is carried under a road and up into a cement flume where it can be used to

irrigate the nursery or seedlings that are to be grown for experimental purposes. Any waste that may escape from this flume which may also be used independently of the rest of the system, is carried to the lower ground in a cement waste ditch. Here experiments with hardier plants are to be carried on.

The system covering the fertilizer plots is so connected that all the plots may be irrigated at once or any one separately at any time. An overflow system is used where the water is delivered at any point without pressure. The water rises in a standpipe at the upper corner and is taken out by small adjustable side gates, where the flow can be regulated to a nicety. Any surplus water goes through the overflow and on down the pipe to the next standpipe and so on down the line. The standpipes which act as basins from which the water is drawn, have a slide gate in them so that the water can be allowed to run down the line without rising to the basin elevation when not needed. With this system, water can be delivered to any plot in the center or lower edge of the plantation without getting a drop on any of the intervening trees. No water can run from one plot to the other and mix the fertilizers, and still if enough goes to waste, it can be used for four different purposes in as many different places.

POOR GROWTH.

It is quite noticeable in going through the citrus districts, that the young as well as the older trees are not making a satisfactory growth. Trees on new land look pinched and are not making the large fat leaves that are usually seen. This fact seems so universal that we cannot help laying it to the weather. The weather gets the blame for everything that that does not work right, and still it stays with us.

WHITE FLY PARASITIC FUNGI.

The Experiment Station Record refers to Bulletin 88 of the Florida Station which treats of the use of fungi in combating the White Fly and that success was had in 98 per cent. of cases from spraying the spores of the fungi on trees or by attaching leaves carrying the fungus to trees. In this work the author used *Ascheronia aleyrodes* A. flavo-citrina, the brown fungus, and *Sphaerostilbe coccophila*. The spores of the brown fungus have not yet been discovered, hence they cannot be used in spraying on the trees. It has been found that in the other species the spores retain their vitality for a month, or perhaps longer.

All of the three first-named species of fungi thrive throughout Florida, but a humid atmosphere is essential for their growth. Apparently the best time for starting the fungi in trees infested with the white fly is from May to August. Repeated plantings of the fungi should be made to insure success.

In badly infested localities it is recommended that trees along roadways should be trimmed high to avoid the distribution of the white fly by carriages brushing against the branches. The white fly feeds on a number of trees, including Cape Jessamin, chinaberry, umbrella tree, prickly ash, trifoliate orange and

others. Where these trees are of no value and infested they should be cut down and burned. If it is desirable to use insecticides against the white fly, spraying or fumigation should preferably be done from December to February.

GROW THE KUMQUAT.

The ornamental little Kumquat should be profitable for California growers. They are ornamental and there are several uses for the fruit.

The trees should be set from eight to twelve feet apart each way or they may be planted in hedge form allowing about twelve feet between the rows, placing the trees about five feet apart in the rows. The latter method appears to give excellent satisfaction. The cultivation and care given the Kumquat tree should be the same as for other members of the citrus family.

The Kumquat cannot be regarded as anything else than a fancy fruit, and in most cases a demand must be created. The package best adapted for shipping the Kumquat is the strawberry carrier. Each basket may be lined with fancy fringed paper and the whole crate should also be lined with heavy paper. Fill each basket level full of the fruit and place on top a small twig with two or three fruits attached. The fringed edges of the paper should then be drawn together to form a covering. Various styles of fancy packages holding a quart or less may be used.

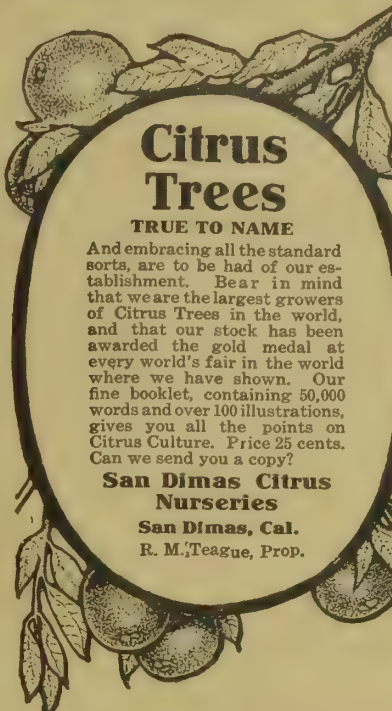
TWENTY-FIVE NEW CARS A DAY.

The Southern Pacific system is now having built 6600 of the most improved refrigerator cars. These are coming into the market at the rate of 25 a day. They are the most expensive cars of this type ever built, and so perfectly adapted to their purpose that the low temperature can be maintained for ten days with practically no variation.

IT'S PENNY WISE.

Policy to set out a good tree, cost-

ing good money and then let the sun burn the bark or the rabbits gnaw it when for \$1.00 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Manufacturing Company, 2124 Willow Street Los Angeles.



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San Dimas, Cal.
R. M. Teague, Prop.

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in my nursery, which I would sell at low figures, in order to clean up the ground.

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OUR ANNIVERSARY.

We are one hundred and thirty-one years old—as a Nation today. We are not aged compared with the governments of the old world, but we have had a wonderful experience in the 131 years of our existence. We have demonstrated that self-government is a success where administered by an intelligent, God-fearing, justice-loving people. We have shown our ability to cope with powers many times our superior in point of years and wealth, and we have established a republican form of government in the face of predictions that it could never be done.

There are those today, who affect to believe that the Republic will some time fall because of our wide-open system of admitting to citizenship undesirable foreign elements. If such a calamity shall overtake our government we have only ourselves to blame. We have noted the effect of this horde on our cities like Chicago, and San Francisco, and yet our national law makers refuse to take the necessary action to protect the country from the ingress of this lawless element.

Almost without exception are these low down, foreign cast-offs enemies of enlightened government, and they are foes to education and religion. Our free school system is hated and our laws vehemently assailed.

That we have received and made citizens of thousands of estimable foreigners is true. That they constitute pillars of strength to the Republic has been proven on battlefields and in halls of legislation, but while this is the case we have been overrun with enemies of good government

until today the problem of their control is one of the most serious that we have to solve.

We do not fear the overthrow of the Republic from this source alone, but we do expect to witness a most serious conflict, sooner or later, with this rabble foreign element which is dominating our great cities. It is this condition which should stir us to action and which we stand in greater danger from than any foreign complications.

As governments are organized, ours is the best on earth, but to preserve it we must exercise eternal vigilance and demand and receive from every citizen strict obedience to the laws of the land. In this way only will our Republic stand through the vicissitudes which mark all nations.

FARMERS MAKE LARGE PROFITS.

We are accustomed to say, unless we are otherwise advised, that the farmers of this nation are inadequately compensated. In reading the report of the Secretary of Agriculture, and also the reports of the various State Boards of Agriculture, we are compelled to admit, and gladly too, that the farmer and stock-raiser who is up-to-date, and follows his occupation with all the energy and intelligent application which is necessary to success in other business callings, makes a larger per cent of profit than any other line of business.

"If prices are so low that a stock-raiser makes only 25 per cent. to 30 per cent. net profit," says a writer in the Rural World, "the air is full of complaints that he is not making any money." We know from experience, as well as observation, that farming properly conducted, is a lucrative, as well as most pleasant, occupation. "We know," says the same writer; "that farmers and stock-raisers are so accustomed to making 50 to 100 per cent. net profit that any per cent. below this seems like a direct loss. Thousands of our most enterprising, up-to-date stockbreeders are making from 100 to 200 per cent. net profit every year on their high-class stock, and we have business statements on file in our office from prominent breeders where they have made 300 per cent. some certain years." These indisputable facts show what can be done on a farm, and they also prove that it is the farmer who is making the largest legitimate profit. If a retail or wholesale store, or any manufacturing concern can show 17 to 22 per cent. net profit at the end of the year, the management feels like celebrating the event with a grand banquet, and the stockholders feel warranted in increasing the manager's salary. Farming is not only the actual foundation of our national prosperity but the farmer makes by far the largest profit, which is right and fair. They are entitled to the cream, and the cities must live on what they can make out of the skim milk. When you add entire freedom from harrowing business cares and absolute independence of financial panics, you have an ideal life that must be envied.

Young man, if you are thinking of leaving the farm for the city struggle and fight, be sure to give careful consideration to these facts before giving up freedom and independence in exchange for business life in the cities, where ninety-five per cent. fail at some time of their heartrending struggle.

HORSES AND GOOD ROADS.

The Secretary of Agriculture, at Washington, is taking more than common interest in the good roads movement in the United States. His home farm in Iowa is removed some distance from market, and naturally he desires to know the actual value of good roads so far as they relate to horses—the moving power of his crops. To ascertain just what value good roads bear to the movement of crops, he has recently prepared a bulletin which is intended to show what well improved roads will do from the point of either a breeder or user of horses. The bulletin explains that the total tonnage of farm products hauled on country roads in the United States is not known, but of twelve leading products it is estimated that nearly 50,000,000 tons were hauled from farms during the crop year 1905-1906 at a cost of about \$85,000,000, or more than five per cent of their value at local markets. Of this traffic 40,000,000 tons represent the weight of corn, wheat and cotton and the cost of hauling these products was \$70,000,000. The

number of working days taken to haul twelve leading crops from farms to shipping points during the crop year 1905-06 is estimated at 21,417,500 and the number of loads taken as 30,319,000.

The greatest time for any one crop in hauling to shipping points is 8,494,200 days for corn, but if the time taken for hauling to local mills the wheat consumed in the counties where grown be included, the total number of working days taken for hauling wheat from farms during the crop year just mentioned would be over 8,900,000. Although there were fewer loads of cotton than of oats, it required 1,000,000 more working days for men and teams to haul the fiber than this grain. The average time for a round trip for hauling oats being 0.6 day and for cotton one day. The greatest distance over which it will pay to haul a given crop will practically limit the production of that crop for the market. Beyond that limit a more valuable product must be made. The bulletin shows conclusively that the value of any given crop is in its proximity to market. If the distance in time can be reduced one-third, by the advantage of good roads, the producer has added just that saving to the price he receives.

IRRIGATION CONGRESS.

We are in receipt of the official call of the fifteenth National Irrigation Congress to be held at Sacramento on September 2-7 inclusive. The object of the Congress is well understood and has been outlined in these columns heretofore. It is national in its scope and will include in its membership some of the most prominent public men in the Nation. The call states that: "The Interstate Exposition of Irrigated-land Products and Forest Products will be held simultaneously with the Irrigation Congress. The largest and finest list of trophies and prizes ever offered, will stimulate competition. The California State Fair will follow the Congress with joint openings and closing ceremonies attended by a great Irrigation celebration, the day closing with a magnificent allegorical Irrigation parade and electrical illuminations.

Especial emphasis is laid upon the opportunity afforded by this Congress for the study of irrigation, irrigation practices and results, irrigated crops of every kind and irrigation opportunities."

There is no doubt that this will be one of the greatest conventions of its character ever held and must result in great good to the state of California to which irrigation is so important.

TO TEACH AGRICULTURE.

"In revising the text books for the public schools of Oregon" says the Spokesman Review. "The State commission has changed all but four books now in use. It is noticeable while civil government has been dropped entirely as a separate subject and mental arithmetic will be given with the aid of the books on written arithmetic, that elementary agriculture has been added in the place of the two text books dropped. It is still more significant that this change in favor of teaching agriculture in the schools is said to have been made in response to a very general demand."

It is quite evident that we are approaching a new era in our high school course of study. Attention is being directed to agriculture as it has never been before. Young men and young women are manifesting a desire for practical farm education and students in our colleges and Universities are turning to agriculture for a future career as heretofore they turned to law, medicine, or journalism. It speaks well for the future of our country when agriculture shall become one of the honored professions and our colleges and common schools shall send out graduates learned in the science of farming—the basis of our national wealth and greatness.

Since the passage of the Pure Food law there will be no palming off of other oils under the label of "pure olive oil." This reform will help the commercial status of the olive oil industry, especially so, as the public has come to understand the medicinal virtues of pure olive oil which is given to sustain and prolong life and to build up the tissues of the body.

News of Country Life in the Golden West

Southern California

Northern California

AGRICULTURE.

Cajon Pass had a big fire last week.

Imperial dairymen are installing milking machines.

The Tri-Counties Reforestation Committee met in Santa Ana on July 1.

The interior valleys have all been taking a sun bath for the past few days.

Mentone had a serious fire last week, some valuable irrigating flumes being destroyed.

Celery growers of the peat lands, near Santa Ana, are having serious trouble with Jap laborers.

The Colorado is still high, but has receded sufficiently that all concern over any breaking of the levees is past.

A brush fire back of San Bernardino last week destroyed 150 tons of hay belonging to John Anderson and D. A. Courteney.

Onions are reported to promise one of the heaviest crops in Coachella valley next year, owing to the successful season just closing.

The Standard says the Imperial farmers will do a large amount of improving on their ranches with returns from this year's output.

San Jacinto Register says that the bounteous crops of this season are causing many improvements in ranch homes about that thriving little city.

An industry which promises much to the peat lands below Santa Ana, is the use of peat in the manufacture of gas. It is said to produce a most beautiful illuminant.

The Santa Paula Chronicle says that the American Alcohol Co. is contemplating a plant for the extensive manufacture of de-naturized alcohol in Ventura county.

The first meeting of the Stockmen's Association, of San Diego county, was held in Escondido last week. The aim is to stamp out the Texas fever in that county. The next meeting will be held on Saturday of this week.

The chili pepper growers of Orange county, being somewhat hot over the prices which they have received during the past season, propose to combine regardless of anti-trust laws and make it warm for the purchaser this fall.

Seventy-five thousand miners' inches are reported as flowing into Salton sea from the New river, but this causes no uneasiness as it is a natural overflow of the flood season, in the old channel and does not injure the levees of the Colorado.

The Salton sea is now being recommended by the Submarine as a health resort. With the weather which the papers report prevailing there now, this is possible, for we note that the cold wave sweeping over that section has lowered the temperature to nearly one hundred degrees.

The Huntington system which owns the Los Angeles, Riverside and other trolley systems, has purchased the San Bernardino and Redlands systems, which probably means that the connection with Los Angeles will soon be made; the Redlands suburbanites will be able to reach Los Angeles on the electric car.

HORTICULTURE.

Muscat grapes are appearing at Imperial.

A new cannery is being built at San Jacinto.

Hemet ranchers are receiving \$11 a ton for alfalfa.

Three cars of tomatoes per week are shipped from Thermal.

Application has been made for a rural postal route at Hemet.

Hemet's grape crop is reported to be very satisfactory this season.

Extension of the date planting industry is being made near Indio.

Canners at Santa Ana have purchased peaches at \$65 to \$70 a ton.

Washed Corona navels brought \$5.50 per box in New York last week.

All citrus sections report setting for an immense crop of oranges next year.

Special night cars are sent out of the Imperial valley loaded with cantaloupes.

Shipments of oranges from Riverside now aggregate well up toward 6000 cars.

Dangerous brush fires are reported to have done much damage in the hills near Azusa.

Elsinore apricots are reported fairly good crop and bringing the highest prices ever.

The Gregory Co. has installed machinery for canning fruit at its packing house in Colton.

But few cars of oranges remain in Redlands to be shipped. The total is now about 3200 cars.

Santa Ana officers are arresting fruit thieves who were simply passing by and took "one to eat."

Mentone is entirely without water owing to brush fires burning out its water supply flume last week.

Highland reports great profit from grapefruit orchards this year, trees giving a gross return of \$1000 an acre.

Cantaloupe prices have been good in Imperial valley section, and the fruit reported of higher quality than usual.

Deputy State Commissioner, Maskew, has distributed a large number of lady bugs to battle with the melon aphids of Coachella valley.

The Upland News is making an earnest appeal for better roads, especially that her one magnificent avenue, Euclid, shall receive more attention.

Reports coming in of the pre-cooling plant of the Santa Fé Railroad Co. at San Bernardino are in effect that will prove a satisfactory proposition.

The Riverside Water Commissioners are considering a special tax of irrigated lands, say 10 cents per acre, for the purpose of providing funds to aid in reforesting water sheds.

Institutes held last week in Ventura county and at Pomona under the direction of Mr. Neff, are reported by local papers to have been productive of great good to those sections.

The Highland Messenger says that the crop of oranges setting for next year has one peculiarity in this, that there is a great diversity of size, ranging from small marble size up to one inch in diameter.

AGRICULTURE.

Beet pulp is being used for fattening cattle at Willows.

About one hundred acres of barley were burned last week near Kerman.

Kerman says that the alfalfa growing is proving popular in that section.

Corcoran real estate is on the jump owing to satisfactory crops in that section.

Shipping of draft horses from Hanford to San Francisco is proving profitable.

Tulare county says that she also wants that \$500 first prize from the State Fair.

The Diamond Match Co. will erect a big plant for making turpentine, at Sterling City.

The big Empire ranch, near Lemoore, will produce a fine crop of grain this season.

Petaluma Poultry Association is still pushing its plants for the next poultry show.

Heavy shipments of hay are being made from Winters. The output will be greater than ever.

Bids will soon be asked for additional buildings to be constructed on the State Farm, near Davis.

The spring clip wool is bringing 25 cents at Ukiah. A warehouse now has about 140,000 lbs. of wool stored.

Some magnificent trophies are offered for irrigation exhibits at the coming National Irrigation Congress.

The State Fair management is offering special prizes for county exhibits at the coming fair amounting to \$1550.

The Hanford Sentinel reports one grower having exhibited 55 large wheat heads, the product of one kernel grain.

Petaluma poultry raisers are being hit by the move of the Express Co., that no more empties shall be returned free.

Sawdust dumped in the river by the mills east of Fresno and Tulare counties is causing death of many fish in those streams.

Six men were recently arrested at Visalia for carelessness in causing a fire which destroyed large quantities of standing grain.

Fresno hay is now on the jump and commanding top notch prices. The crop in that section is said to be larger than usual.

A large dairy ranch established near Wheatland, is said to be the forerunner of an up-to-date creamery soon to be established.

There is to be a civil service examination on July 23rd and 24th of the applicants for the position of U. S. Forester near Salinas.

The directors of the District Fair, at Hanford, are taking steps to give one of the finest fairs this fall, in the history of the association.

All the towns in the neighborhood of Salinas are appointing large numbers to attend the irrigation meeting soon to be held in that town.

Kings County Fair Association will offer prizes for the finest exhibit of agriculture, also of horticulture, by various counties of that section.

HORTICULTURE.

Canners at Gridley are offering top notch prices for peaches.

The Hanford cannery is about to begin operations on peaches, the crop being exceptionally fine.

Five cents is being freely offered for the four prizes of prunes, coming crop, about the San Jose section.

Two hundred and fifty tons of cherries were shipped from the little town of Cordelia in Solano county.

A move has been made for a new cannery at Watsonville, to be constructed by the Pajaro Packing Co.

A meeting was held last week at Orosi, to discuss the matter of a canal, to dispose of storm waters of Sand Creek.

The Woodland Chamber of Commerce is another applicant for the first prize of \$500 for special county exhibit given by the State Fair.

Pear trees in Shasta county are seriously threatened by blight owing to carelessness in not following Prof. Waite's instruction for handling this disease.

Armenian raisin growers are refusing to sell raisins at 5½ cents, and it is thought they are combining to force the price to 6 cents for the coming crop.

Peach planting will be vastly increased this coming season over the San Joaquin valley because of the magnificent crop and big price secured for it this season.

Seventy-five dollars a ton for peaches near Visalia. Seems too good to be true, but it is the condition prevailing over the great peach section of the San Joaquin valley.

The pear orchards about Cottonwood, Shasta county, where some of the finest pears in the world have been grown, have had their output greatly reduced by the pear blight.

Steamers plying between Sacramento and San Francisco are now loaded to the rails with fresh fruit and potatoes. This traffic is now said to be better than ever before at this season of the year.

Some growers in the hop growing section of the North maintain that hops are now selling below cost. It is maintained that the cost to the producer is approximately 8½ cents per pound.

Selma reports a strange condition present in a vineyard belonging to Mr. Olsen. It is in the nature of a blight. The grapes dry and the center of the stem turns black from some cause not yet explained.

Pear orchards about Redding are reported in bad condition and some orchardists are claiming that the pear industry is doomed in that section unless greater care is taken in stamping out the blight.

The people of Watsonville had a jolly scrap over the selection of its most beautiful young lady to represent the goddess of fruits at the July Fourth celebration. Watsonville girls are all the best looking all right.

A bumper crop of Malaga grapes is promised in the Fresno section; but the shipments of green fruit will be less than heretofore, because the higher price now promised for raisins will induce more general drying of the grape.

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2 BUSHEL
SACK

\$1.90

PER
2 BUSHEL
SACK

Buy the World's Famous Egg Food No. 4

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IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by all largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Hazardous feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultry men who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland.
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis and Clark Exposition."

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Los Angeles, 505 South Main Street.
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Beef Scraps Raw Bone

GUARANTEED ANALYSIS:

Protein 65%
Fat 8%

Made of Cooked and Dried Livers, Lungs, Melts and Clean Scraps. No fertilizer ingredients in these Beef Scraps.

GUARANTEED ANALYSIS:

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Phosphates 45%

Made of Clean Beef Bones, surplus fat removed. Cleanest Raw Bone on the Market.

Pure, Clean Animal Matter Poultry Foods

WESTERN MEAT COMPANY SOUTH SAN FRANCISCO CALIFORNIA

Lincoln Avenue Poultry Yards

Successors to
Capt. E. Pryce Mitchell

Mitchell's White Leghorns

Exclusively

Carl C. Curtis, Owner Lincoln Ave. and Ventura St.,
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Circular for the Asking

(Altadena Cars)

Beef, Blood and Bone Will Make Your Hens Lay

This is not a medicine but a high grade nitrogenous food. Write for free booklet, "How to make Hens Lay." Our Poultry Foods are sold by all local dealers and manufactured solely by

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Bemis Plymouth Rocks

Barred and White

Prizes Won at Alameda County Poultry Association Show, Oakland, 1907—22 Regular Prizes and 3 Silver Cups. Can furnish best birds and eggs at reasonable prices. No incubators lots furnished.
Mrs. Florence E. Bemis, 1757 19th Ave., Oakland, Cal.

Special Sale of White Leghorns

Mitchell Stock 200 Yearling Hens at \$18 per dozen
100 2-Year-Old Hens at \$15 per dozen

Also some choice White Leghorn and Black Minorca Cockerels. These birds are all in good condition. Hens are from my breeding yards and must be sold to make room for my young stock. Write or call. Satisfaction guaranteed.

S. E. GREGG, 126 So. Adams St., Riverside, Cal.

Profit in the Poultry Yard

We solicit short articles of a practiced nature from the fancier and utility breeder, giving their experiences with poultry. All inquiries pertaining to feed, management, disease and its prevention, will be answered through these columns.

WANTS TO KNOW.

THE following letter from a subscriber has the right ring to it.

She not only reads The Cultivator, but we judge by the tone of her letter that she knows the standard requirements of her chosen breed the Brown Leghorns. We certainly agree with Mrs. Subscriber in what she says about the Brown Leghorns, and think that more attention should be given them. May we not hear from some of our breeders who have compared them with other breeds.

The Letter.

We have taken your paper for over three years and I wish you to know how much I have enjoyed and profited by the poultry department. I knew scarcely anything about chickens when I began reading your articles and I have been more than ordinarily successful by following the directions on care of chickens and I feel very thankful for this help. Now you say your new editor is equal to giving us any information we wish if he can only find out what our requirements are. You could not write too much on the breed and mating of Brown Leghorns to please me.

I wish to ask a few questions which I will be pleased to have answered in The Cultivator.

When a breeder says a pen is mated for cockerels that means the cockerels will be the standard.

I can't understand why I would have to use double mating, as I do not care to show my birds but I want my pullets and hens as near standard as possible.

I can't see that I have any use for the cherry red cock that the standard calls for. Please explain.

I sent for a high-priced setting of eggs and told the breeder that I wanted the eggs for the cockerel to mate with my hens to produce standard pullets. They are now ten weeks old and I have five fine-sized cockerels, but no comb is perfect although the parents are prize winners. Two have six points to comb and on two the comb is far from stiff at base in the front.

As they develop, all birds being equal in other points, which would you consider would produce best standard pullets. The fifth cockerel was off in color (much too light when hatched) but is now nearly as dark as the others.

Do you think it would be safe to breed from him, providing his color is good when matured? I would not do so for anything if I thought his chicks would be light for I never keep a chick that is off in color when hatched, for I do not feel there is much money in broilers and I would not have an off-colored hen on the place. My culs have to go.

I feel there is far too little said in praise of the Brown Leghorn. I am perfectly in love with them, after trying several breeds. I would be delighted to see as much written in their praise in the Cultivator as has been on the Wyandottes. My experience is that you can feed one hun-

dred Leghorns with same feed that about 60 of the heavier breeds require. The heavier do not lay as many eggs and no larger in size. Of course, I know I got good stock to begin with.

Big Enough to Eat.

People say, "O, but when we want one to eat we want something." I weighed one of my hens a few days ago that will have to be turned off this fall and she weighed five pounds, and I consider that not a bad meal. Another thing I dislike is to read—"Get your Leghorns heavier." Why not let a Leghorn stay a Leghorn, and for one who wants a heavy bird let him get a heavier breed. I don't want my two-year-old hens to weigh over four and one-half to five pounds.—[A Subscriber, Pasadena, Calif.]

Cockerels or Double Mating.

Cockerel mating means that the cockerels will be standard, or exhibition color, while the pullets will not.

It is not necessary to practice double mating when you only want birds for utility purposes; however, you will find that when you change the color that the standard calls for, your Leghorns will lose much of their beauty, and we very seriously doubt your being able to produce and reproduce the standard color unless you do use the double-mating system.

The cherry red you speak of in the cock is of not material use, unless you wish to sell eggs at a fancy price for hatching. Then your customers will expect to get eggs that will produce standard-colored birds.

In selecting a cockerel for breeding get one with the best color and comb possible. We would rather have a four-point comb than six-point. We never saw a perfect comb in a Leghorn male.

The color of the chick makes no difference if the bird is the proper color when he develops.

We consider a four and one-half and five-pound Leghorn a good sized bird and think them large enough, but many Leghorns only weigh three and one-half to four pounds. This is the size we are talking about breeding up.

AROUND THE YARDS.

THE LAY OF JOE BING'S HEN.

Joe Bing has got a hen that lays Two eggs per diem—see!
An' when she feels eggs-act-ly right Blamed if she don't lay three!
That old blue hen, he cackle-ates, Is bound to raise the score;
She's never sat—Joe 'tends to that At Luscomb's grocery store!

—[Woman's Home Companion.]

If you love your birds your works will show it.

Our misfortunes keep the price of poultry and eggs up.

The woman who raises poultry always has ready money.

Hens that are not good feeders, as a rule, are poor layers.

To cultivate the acquaintance of you flock means success.

If you want eggs when prices are highest means good treatment for the hens these warm days.

Equal parts of oats, barley and buckwheat, all ground, is a good fattening food which produces white meat that is superior to corn-fed flesh.

The chaff from the barn floor thrown

July 4, 1907.

under a dry shed for the hens to scratch over for seeds and fine bits of hay is worth a great deal, and cannot be put to a better purpose.

One of the greatest troubles in feeding poor grain is not altogether in the loss of nutriment as compared with good grain, but in the fact that poor or musty grain causes many of the diseases to which fowls are subject.

Crop-Bound.

Mrs. McV., of Sacramento, writes that she has a hen with a very large crop, and upon examination, found that it seemed to be filled with grass, the hen would not eat. She worked the crop with her fingers, as well as she could, thinking this would relieve same, but found in the morning that the hen was not better. Is she crop-bound, what is the cause, and can she be cured?

Your hen is undoubtedly crop-bound. It may be caused by several things; we have known birds to eat a banana peel so large that it became crop-bound. Sometimes long grass that is partly dry will cause it. Cure—First, always have plenty of sharp grit before your birds as a prevention. If your bird only has a mild case give a tablespoonful of sweet oil. Knead the crop gently and try to force the contents out of the mouth, holding the head downward. If this fails to give relief an operation will be necessary. To do this make an incision in the outer skin with a very sharp knife, about one and one-half inch long; it should be at the top and should be up and down. Slip the skin to one side and then make an incision in the crop proper which will not be opposite the one in the outer skin. After making the second incision remove the contents of crop with the finger; clean it well with warm water to which has been added about four drops of carbolic acid to an ounce of water, then stitch with silk thread, care being taken not to sew crop to outer skin. Give no food for twelve hours, then for four or five days give soft food, such as bread soaked in milk. After this regular diet may be given.

Egg-Eating.

I have a few birds that eat their eggs. Can you suggest anything to break them from it?—A. B. Hanford.

First—Remove all birds from pen if there are any that do not eat their eggs, that they may not acquire the habit. Then darken the nests so the eggs can't be seen so readily. Feed plenty of oyster shell and meat, and leave china eggs lying around the yard for them to peck at; this will generally break them up.

GIVE CHICKS CHARCOAL.

When chicks are fed mash it is a great benefit to them to add a little powdered charcoal to their food. Have the mash moist enough so the charcoal will stick. The chicks will soon learn to like it and will eat the mixture as readily as plain food. When they get older feed the charcoal alone and see how they will eat it. It is a fine thing to keep them healthy, for it is a great corrective, preventing fermentation of food in the crop, and for that reason is a great aid in warding off bowel complaint.

However it be, it seems to me, 'Tis only noble to be good. Kind hearts are more than coronets, And simple faith than Norman blood.

CHICKENS IN HOT WEATHER.

It is well to remember that chicks grow fast and a coop that had been plenty large enough for brood when young, will soon become too small and overcrowded, and in consequence injury to their health and growth will result. More room should be given at once if overcrowding is noticed, either by providing larger coops or dividing the broods.

It will be found best to give growing chicks as much range as possible. If necessary to confine them, have as large yards as can be provided. Chicks should be fed apart from older fowls. If all are fed together, they will be apt to get an insufficient amount of food and the older fowls will receive too much and in consequence become too fat. Regularity in feeding is another important matter. If chicks are fed at certain times when on free range, it will be found that they will be near or about the feeding place at that time and all will share alike, whereas if they are fed any old time, some may have wandered off in search of bugs and insects and therefore miss their portion.

One of the most important things to be considered during the summer is the water supply. The water should be kept in some vessel or fountain that will prevent the chicks from walking in it, or else the water should be changed frequently.—Orange Judd Farmer.

FEATHER PLUCKING.

A correspondent of Country Gentleman tells of a very serious outbreak of the feather pulling habit among a flock of young Leghorns hatched in an incubator about April 1 and reared in a brooder. They had been given ground bone from the time they were three days old. When about three weeks old, they begin picking at each other until several got into the habit of attacking one chick, and if it was not taken away by the owner, the flock would actually kill and eat it. The only way he could prevent their picking each other was by keeping meat lying by them constantly. Country Gentleman comments on this as follows: "We do not think that feeding ground bone had anything to do with the chickens picking each other. Where a lot of young chickens are kept together this way in a brooder, do not have out-door exercise, do not have natural surroundings that they demand, they often form the bad habit of feather pulling. The blood begins to flow, and then they quickly attack the blood spots and thus kill the young chicks. Nothing seems to cause poultry, old and young, to pick each other as the flow of blood from any one of them. All the meat and bone in the world will not prevent this. Nothing but out-door exercise and natural exercise and natural surroundings will cure this habit when once it is learned. As to the advisability of feeding bone meal, or ground bone, if you mean dry bone meal, a little a day is good, too much injurious; if you mean cut green bone, a reasonable amount of this is good for them. Many of these troubles come from too much care and coddling." All this comes quite close to the truth. And an ounce of prevention in this, as in most cases, is worth a pound of cure.

What do we live for, if it is not to make life less difficult to each other? —George Eliot.

Diet, Not Dope

In a speech before the Medical Institute in London, England, the other day the physician for King Edward called the attention of the assembled doctors to the fact that the use of drugs was being superseded by the use of proper food, air and exercise; and he was glad of it, believing the less drugs put into the system the better. With man so with chickens.

Use good diet. A. C. W. Foods, plenty of fresh water, a good yard to run in and you will have no trouble with poultry.

A. C. W. Poultry Food for sale at all dealers, made by

The Agricultural Chemical Works

901-907 Macy Street

Los Angeles, Cal.



A GOOD TONIC ACME ROUP CURE CURES

FED TO YOUNG CHICKS WILL KEEP THEM HEALTHY AND VIGOROUS; THE OLD FOWLS WILL MOULT QUICKER AND EASIER; PULLETS WILL LAY EARLIER AND LONGER

LEE'S EGG MAKER

IS THE BEST TONIC MADE

LEE'S LICE KILLER

IS GUARANTEED

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Our stock of Poultry Supplies is large, fresh and complete, at the very lowest prices.

Come and see us at our new store. We'll treat you right. Or send in your orders.

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By scientific and careful experiments we have been able to compound a ration in our Excelsior Egg Food to produce the desired results, that is

More Eggs

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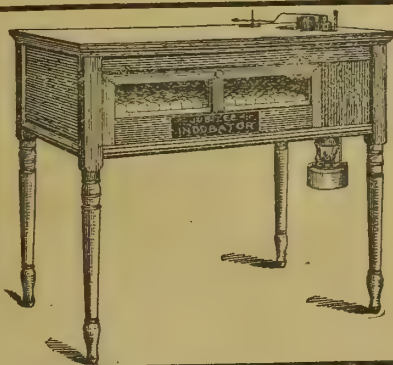
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Ask those who ought to know! Ask business poultrymen! They will tell you that for business results in incubating and brooding

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THE WHITE WYANDOTTES THAT WIN AND LAY

\$15.00 and Up Per Dozen

Lakenvelders, per pair, \$8.00; trio, \$10.00. Mammoth Bronze Turkeys Reasonable.

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Egg Fowls

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Over 60 Prizes
This Season

Eggs Half Price for June. Orders now Booked for Day-Old Chicks for September Delivery.

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SAN JOSE, CAL.

Black Minorcas Exclusively

Our Minorcas excell in size and egg production. All prizes at the late Los Angeles Show were awarded our birds. Stock and eggs for sale. Send for our new illustrated catalogue.

Perham & Wheeler, R. F. D. No. 123, Lordsburg, Cal.

Molting Time

Is the time to provide for eggs when they will be scarce and high. Don't let your hens molt for months. Don't let them get completely run down and all out of condition. This they will certainly do unless you use care and intelligence in feeding them through this trying season.

West Coast Egg Food

Is a highly nitrogenous Poultry Food, rich in protein, composed of the finest grains, seeds, roots, salt, iron, charcoal, condiments, shells, oil cake, bone, meat and dried blood to keep the poultry in good health, build up a strong and vigorous system, make the hen molt early and convert the surplus aliment into eggs. It is a full, scientifically balanced ration containing no filler but every ounce is pure food. Many so-called "Poultry Foods" and "Egg Makers" are nothing but stimulants and not advisable to be fed regularly. If your poultry are already in a run down condition,

West Coast Poultry Tonic

Is what they need for a short time; that is just what its name implies. But it is very easy to mix a lot of ingredients, much of it a little better than refuse and call it egg food. And even if good foods are mixed it does not make an egg food unless the ingredients are adapted to the requirements. Some mixers of "egg food" seem to think that it is the shell alone that is to be made, forgetting that a hen has no use for the shell until she has made the egg.

West Coast Egg Food

Is made of just such first-class materials and in such proportions as has been proven by long practical experience to serve the purpose of assisting the hen in her molting and then in producing eggs, and at the same time to build up her system and keep her in the best of health. The hens like it, they eat it, there is no waste, hence it is the cheapest Egg Food on the market.

West Coast Egg Food

can be fed either as a mash or as dry feed, though we recommend the latter because it is more natural and, we think, the better way. Don't ask Biddy to fill the egg basket without giving her good care and providing her with proper material for the purpose. Feed her West Coast Egg Food. For sale by many dealers. If yours doesn't keep it, or will not get it for you, send direct to us.

Manufactured by the

West Coast Stock Food Co.

818 San Fernando St. (Through to Alameda) Los Angeles, Cal.

COLUMBIAN WYANDOTTES

Winners at Breeders' Great Show, 1907. 21 prizes on an entry of 26 birds. Stock for sale, also eggs \$3 and \$5 per setting of 15; \$20 per 100.

Ed. M. Burnell, South Pasadena, Cal.

Baldwin's White Leghorns

Egg prices cut in two for May and June. Fine youngsters at reasonable rates. Good older stock cheap to make room. Send for latest price list.

Frank E. Baldwin

46 Washington Ave. - San Jose, Cal

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Breeders and Importers of

Buff, Black, and White Orpingtons

Have for sale Trios, Cockerels and Pullets.

Eggs for hatching, settings or hundreds.

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Two Blocks North, One Block East Altadena Post Office

WHITE WYANDOTTES EXCLUSIVELY

Good, White, Typical Birds. Stock and Eggs For Sale.

W. A. SEYMOUR

407 No. Beaudry Ave. Los Angeles, Cal.

BARRED ROCKS

EXCLUSIVELY

Send for Sixteen-Page 1906 Catalogue

H. R. CAMPBELL

BOX O PETALUMA, CAL.

Spargur's Trap-Nested White Leghorns

Cockerels for sale from my best hens. A few Light Brahma Hens and Roosters for sale. Eggs from I. R. Ducks and Blue Andalusians at \$1.00 per setting, \$5.00 per hundred.

H. G. Spargur, Soquel, Cal.

WHITE WYANDOTTES Hubbard Stock heavy-laying prize-winning strain. Commencing June 1st, eggs, \$5.00 per 100; baby chicks, \$2.25 doz. Cannon Poultry Co., 2851 Morgan Ave., Los Angeles Take Slauson Ave. car to 29th St., walk 1 block west

SHADE'S RHODE ISLAND REDS

The World's best layers.

Write for Folder.

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WHITE, BUFF COLUMBIAN WYANDOTTES

And Golden Sebright Bantams, prize winners

Stock and Eggs in season

M. E. Dillingham, Box 67 San Gabriel, Cal

PRACTICAL POULTRY CULTURE.

At a farmers' institute where I was billed for a talk on plain poultry raising, I met a man I thought would make a good match for a self-winding clock, says Fred Grundy in Commercial Poultry. He tackled me soon as I reached the town, and let up only while I was telling the folks about practical poultry raising. I did finally manage to escape him about an hour, while I chatted with some ladies who desired a few instructions in raising chickens, and I asked what sort of a poultryman he was. A neighbor of his said he was a genuine chicken crank. He kept himself poor buying this thing and that to aid him in his poultry business, and he was always going to do wonders, but never had accomplished anything up to that time, and she thought he never would.

A Successful One.

"Now," said she, "I'm going to bring in the most successful poultry raiser in this locality, a little bit of a woman who says nothing, but does things." Presently she returned with a little, timid woman who looked about as much like a poultry raiser as I did like the governor of the State. After talking to her a few minutes she began to ask questions, and soon got so interested that her natural timidity disappeared and she began to tell about her poultry work, what she had done and was doing. She had solved about all of the problems that poultry raisers run up against and was doing a good and profitable business. She believed in first-class stock and kept her's as near top notch as possible, but she said she never discarded a thoroughly good bird because it was a little off in color. She said combs, eyes beaks and shanks all looked alike to her when they were on birds of good shape, size and color. She thought a uniform color was a good thing because it indicated good stock, good breeding and some pride in the flock. Then it was a great help in preventing trouble among the fowls. A bird of an entirely different color to the rest of the flock was sometimes set upon and harassed to death, while hens would often kill chicks that were different in color from the rest of the brood. Where all were of a uniform color no trouble of this sort ever occurred.

Plows Her Yards.

This little woman was as practical as a railroad manager, and she was making money right along, while the talkative crank mentioned was spending all, and more, than he made on wonderful machinery and new breeds. The previous year her receipts for eggs and fowls were nearly \$500, and that season would exceed that amount. She had four poultry yards and all of them were plowed over twice a year and seeded with oats, millet or rye. She had learned that the shortest route to bad luck with poultry was to keep them on the same ground year after year without turning it over and growing some sort of a crop on it. She said she liked my poultry talk at the institute better than any she had ever heard because it was plain sense, and she intended to adopt many of my suggestions. Of course this sounded good to me, much better than the criticism of the impractical crank mentioned, who said I should have shown the great value of high scores, and told how much some of the leading fanciers are making each year, and more about the greatness of the poultry business.

Two Sorts.

There are two sorts of poultry raisers in the land. Those who talk, and those who do things. The talkers are

quite often also writers, and some of them have led many a poultry raiser into blunders that took him out of the business in short order. Those who do things are saying little, but sawing wood. One of the most voluminous writers on farm topics I know is not farming a foot of land, and has not for years. Yet he is mentioned in the papers he writes for always as "Farmer" So-and-So. He farms on paper and in his mind. There is a change coming in the poultry business. Its possibilities are becoming better understood. There will be less theory, trumpery and pipe dreaming, and more practical business. There is good money in it when it is managed right. I personally know hundreds of poultry raisers and know just what they are doing. I know that some of them are making money every year, and I know that others are not making a penny. The first are the practical class who earn more than they spend. The latter spend more than they earn. I know a merchant in a small town who keeps a small flock of good stock to supply him with eggs and chickens, as he says he despises the stuff they keep at the grocery stores and poultry house, and I am satisfied that his eggs cost him from three to five cents apiece. He buys all his feed, and buys the most expensive. He keeps the poultry house as clean as his wife keeps her kitchen. In the same town is a workman who keeps a few fowls for the same purpose as the merchant, and his eggs do not cost him one cent each. He feeds them on the table scraps and grain. The grain he buys direct from farmers. Every evening they fill up on grass from his lawn. In the morning they get the green waste from the garden vegetables. His flock is always in the best of health and he gets full four times as many eggs as the merchant referred to.

I am satisfied that many more people would keep fowls to supply them with fresh eggs if they knew just how to go about it. But there are thousands who know no more about poultry than the young wife who ordered a package of egg plant seed, declaring that she would not pay the high price demanded by the grocer for eggs, but would raise her own.

DISINFECT.

From this time on one of the principal things to combat in the poultry houses will be lice, and as "an ounce of prevention is better than a pound of cure," the sooner you get to doing some of the preventing the better. Whitewashing the poultry houses is absolutely necessary, preventing and exterminating parasitic and other insect pests, and at the same time acting as a disinfectant. In all houses where poultry is kept, its value can not be overestimated, and where used frequently, insect life is practically extinct. Make as follows: Mix unslacked lime and water till they are of a consistency of gruel; then add a small quantity of carbolic acid to extirpate any insects that may exist, and finally a little soft soap, to make the whitewash stick. This mixture is then ready for application to the building and should be applied evenly with a brush, and well worked into all corners and crevices, thus leaving no untouched space for insect life to hoard.

The Antelope Valley Ledger says that the blossom of the sage is now being supplemented by the greasewood and Spanish bayonet bloom, and that the bees are fairly reveling in good "pasture."

Irrigation and Forestry

A NEW CALIFORNIA MAP.

ABROAD desert valley, through which a sluggish river flows, walled in on both sides by rugged mountain ranges whose peaks tower thousands of feet above, is the striking feature presented by the map of the Mount Whitney quadrangle, Cal., just published by the United States Geological Survey. Few of the maps issued by the Survey can be examined with greater interest, since areas within the United States comprise greater variations in topographic forms than the 960 square miles there delineated.

The Mount Whitney quadrangle is a part of East-central California and includes portions of Inyo, Tulare and Fresno counties. It is crossed in a general southeast-northwest direction by Owens Valley, with Owens River hugging the east side and discharging into its sink, Owens Lake, in the southeastern corner of the area.

On the east, Owens Valley is bordered by the Inyo or White Mountains, a typical desert range, with a number of peaks over 11,000 feet high, with no perennial streams, and with few springs. These mountains, however, contain valuable mineral deposits, which are mined at a number of places.

Along the west side of the valley stretches the Sierra Nevada, presenting to the east an abrupt, almost precipitous wall rising from a height of about 4000 feet to over 14,000 feet in a distance of less than 5 miles, and topped by the highest peaks in the main body of the United States. Mount Whitney, named from Prof. J. D. Whitney, former State Geologist of California, rises 14,501 feet above sea level and, closely rivaling it in height, Mount Williamson attains 14,384 feet. Six other peaks in this region are over 14,000 feet high, and there are many that fall just below that height. The numerous high peaks and glacial gorges and the thousands of little lakes that diversify the rugged west slope of the Sierra are famous summer camping grounds for Californians. Across the northwestern corner of the quadrangle winds the South Fork of Kings River in a gorge a thousand feet deep, while in the southwestern part of the area Kern River traverses its wonderful canyon.

Owens Valley is a barren desert except where reclaimed by waters entering it from the mountains, and Owens Lake contains so much soda that its extraction has been found commercially profitable. The river itself for many miles above the lake is also saline, but the numerous streams that drain the west slope of the Sierra carry fresh water in abundance. The valley is traversed by the Nevada and California Railroad, a narrow-gauge line that will probably soon become part of a trunk line connecting the gold fields of Nevada with Los Angeles. Another connecting link with the city of Los Angeles will be formed by the pipe line which, taking water from Owens River near its head, will pass along the west side of the valley, tap all the mountain streams which it crosses, and finally deliver its supply to the city. This gigantic enterprise will be accomplished at a cost of \$23,000,000.

The various natural and cultural features of the region are shown on

the map with as much fidelity to detail as the scale, 1 inch to 2 miles, permits. Valleys and peaks, lakes and rivers, settlements and isolated houses, roads and trails are accurately located, and there is even marked, on the southeastern corner of the sheet, the fault line resulting from the great earthquake in 1872.

PLANS FOR WATER RESOURCES INVESTIGATIONS.

With its appropriation reduced from \$200,000 to \$150,000 for the fiscal year 1906-07, and a further reduction to \$100,000 for 1907-08, the water resources branch of the Geological Survey has been obliged to curtail work in many directions in order that the funds available may be made to meet expenses. The plans for the coming year, however, as announced by M. O. Leighton, Chief Hydrographer, include important investigations.

Measurements of the quantity of water carried by important streams in many parts of the United States will be made as heretofore, and for this purpose over 600 gaging stations will be maintained in 42 States. In California, Washington, Oregon and Maine the work will be conducted in co-operation with the States, and many stations will be maintained by the Survey for the Reclamation Service in connection with projects whose construction is contemplated or under way.

Special ground-water investigations will be carried on in the Coastal Plain of the Atlantic and Gulf coasts, in Ohio, Indiana, Minnesota, California, Washington, Oregon and Texas.

The Coastal Plains investigation, which is of peculiar importance, is co-operative between the geologic and water resources branches of the Survey and the Geological Surveys of the interested States. The work is under the general supervision of a board of supervising geologists, of which Prof. W. B. Clark, State Geologist of Maryland, is chairman.

An investigation of the ground waters of Ohio and Indiana was begun last year, and a report on an area in the southwestern corner of Ohio, with Cincinnati at its southwestern and Springfield at its northeastern corner, has been prepared for publication. It is planned to extend the work further this season, and field work will be begun shortly after the first of July.

In Minnesota, also, the work planned is in continuation of that begun last year, when field investigations covered 22 counties in the southeastern part of the State. During the coming season the work will be carried northward and westward from the area already examined.

In California the investigation of the underground waters of the San Joaquin Valley will be carried to completion; in Oregon and Washington ground-water studies will be made in areas not yet fully decided upon.

The work on the Texas ground waters is in continuation of investigations that have been in progress for several years and on which a number of reports have already been published and others are in preparation.

Special investigations of the quality of surface waters are to be carried on in Kansas and California in co-operation with the States, studies of the pollution of streams by industrial wastes are to be continued, and the in-

vestigation of the fluctuation in the mineral character of the waters of rivers and lakes will be rounded out and completed.

The last work to be mentioned, though by no means least in importance, is the study of what is known as the debris problem in California, a study whose results will find application far beyond the confines of the State whose necessities gave rise to it. The details of this investigation have been stated a number of times.

COOL DRINKING WATER ANYWHERE.

There is a vast difference between just wet water, as it comes out of a canteen or jug which has been carried in the hot sun, and a cool, refreshing drink of water as it comes out of Appell's South African Water Bag.

Although made of canvass (therefore much lighter to carry than the jug or canteen) this bag holds water perfectly, is strong and durable and, by the simple principle of evaporation, will keep the water remarkably cool for fully forty-eight hours.

It is a delight to all who tramp or ride, whether for pleasure or business, and every sportsman, prospector, surveyor, miner, ranger, farmer, yachtsman, fisherman, timberman, threshing crew, millman or railroad man who has ever carried the Appell South African Water Bag includes it as one of the indispensable articles in his "kit". Although but a recent invention, these bags may now be had from all hardware dealers, so general has the demand become. They are made by the Adam Appell Company, of Portland, Oregon.

The Colorado River which, after receding from its recent high water, commenced rising again last week, caused some uneasiness. It is now receding and it is thought no further rise will be made this season.

AN ADMIRAL WITHOUT COST

3 FEEDS TO THE ROUND

2 PROFITS IN HAY BALING



The difference in the increased earnings of the ADMIRAL THREE-STROKE SELF-FEED PRESS more than pays for the press in one season, at a conservative estimate of 2½ tons per day over the old style two-beat, foot-feed press, besides the ease of labor on both men and team, and better work. Let us figure a little to convince you.

2½ Tons per day for one week, 15 tons at \$1.50 net.....	\$ 22.50
One month's earnings over the other press (26 days).....	97.50
On an estimate of five months' work out of the year.....	487.50

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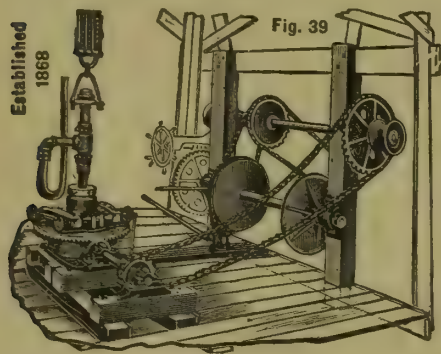
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AUCTION

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60 Head cows and heifers, Holstein, Durham and Jerseys, young and in good condition, fresh and coming fresh. About 30 Head of this stock are two and three-year-old heifers coming in with first and second calves. 7 calves, 2 work horses, 1 yearling colt.

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AND PARTRIDGE Wyandottes**
Won 26 Ribbons and Special Prizes
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When writing advertisers, mention Cultivator

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Planting Alfalfa.

I have a quarter section of irrigated land at Las Banos, (Merced C.) and I would like to know if October would be a desirable month to plant it to alfalfa. How many crops of alfalfa do they get a season at Las Banos? The land is leased up to next October and I am anxious to have it put in alfalfa as soon as possible.—P. W. P.

The latter part of October or the first of November will be better for sowing alfalfa than the very warm, dry months earlier. If sown too early there is danger that the surface of the ground will dry and the seed will not germinate well, or if it does germinate, that there will not be enough moisture in the surface to keep the young plants alive until they root down to the more permanent moisture.

The planting should, however, be early enough so that the young alfalfa will have made a few inches growth before any heavy frosts, as it sometimes happens that frost will kill alfalfa that is just coming through the ground.

The land for an alfalfa field should be well graded, as every dollar spent in making the field of the proper grade will be repaid many times over in the saving of water and labor during the life of the alfalfa, besides if there are any depressions where water will stand it will likely drown the alfalfa. The seed should also be carefully examined to be sure that it contains no dodder or other foul seeds. Dodder seed is only about one-half the size of alfalfa seed and may be separated by a screen, but the safest way is to buy seed that is known to be clean.

With favorable weather and plenty of water seven crops of alfalfa may be expected in a season. Five of these should be heavy crops with a lighter crop at the beginning and end of the season.—J. B. N.

Best Time To Trim Orange Trees.

What is best time to trim orange trees? What kind of fruit, if any, can be grafted on loquat stock? What time are olives gathered?

Orange trees should be planted as soon as the crop is off, and while the job is being done a picking bag carried by the pruner will sometimes bring in enough oranges to pay for the pruning. This is often the case where a mixed gang of pickers are used. We refer to pruning that is followed up every year. Where heavy pruning is done in re-shaping the tree it should be done after the cold weather has passed which makes orange growers reflect on the lot of the crowned head that rests so uneasily. Don't do heavy topping before this period.

We do not know that the loquat is used as a stock for any plants other than loquats, but loquats are quite often budded on quince. How quince would behave on loquat, we are not prepared to say. It may do well.

If you wish to pickle the olives, pick them when they just begin to turn in color. If you wish to make oil, let them ripen on the tree and if

they shrink some it will not matter.—J. W. M.

We may add that the season of ripening olives is from October on into the winter months.

Powdery Mildew.

What is the matter with my muscat grapes? The vines blossomed very full but a great many of the grapes are falling off with the blossoms. The vines are six years old; on good mesa land, part of it well manured.—J. W.

You may have powdery mildew and it may be that you have not exactly the right conditions for the muscat. It drops badly in a great many places and no amount of proper treatment will make it bear. If you have powdery mildew it will show on the other parts of the vines and especially on the new growth. In the event that you have it, use sulphur at once. This will not bring back your grapes but it will help the vines.

The Cultivator recently published directions for using sulphur which, if followed, will give you all the help possible under present knowledge of the subject.—J. W. M.

Cobwebs on Grape Vines.

What is the trouble with my Muscat grapes? During the period of blooming there seemed to be a web resembling a spider's web form over the bunches; this web was on nearly all the bunches; on some much more than others, but seemed the worst in the center of the vine where the sun and air could not get to them; this web caused them to drop until the bunches were bare stems. Vines have been well cultivated and all sulphured once and part of them twice. The vines are four years old and have not been irrigated yet this year.

There are a number of vineyards here affected in the same way.—Subscriber, Sanger.

The web to which you refer is quite common in some sections and the cause of dropping has been assigned to it in many cases, but as yet we have no evidence that the webs have any bearing on the case. While in the Imperial valley, recently, we saw signs of it and one man said that he simply went through the vineyard and "clawed" the webs with his hands and that was the last of it. It seemed to be a good plan to follow where there is any suspicion that they injure the vines.

Pruning Young Plums.

I have two plum trees, one year set, with long, slender branches bending over nearly to ground. Shall I prune them now or when?

If you refer to last year's growth, cut them off now about a foot from the point of branching. If you refer to this summer's growth, let them grow and cut them off next winter unless they are taking up too much room (suppose they are city lot trees) in which case you might top them so as to make them branch. This however, will retard their growth. If you did not prune the trees last winter, it was a mistake. French prune trees make more substantial trees without being pruned during the first few years, but they are differently constituted than the regular plum which is better handled by pruning.—J. W. M.

Bees and Their Care

FACTS ABOUT BEES.

THE Queen—There is sometimes a question as to there being a queen present in the hive. If the comb can be pressed far enough apart to see the presence of capped brood in the hive, the keeper may rest assured that there is a queen present. Or if the bees are passing in and out with pollen on their legs, it is safe to conclude that the queen is in charge. Pollen is gathered to feed the young larvae, and if there is no queen there can be no larvae, and consequently, no pollen will be gathered to feed the larvae.

Watering the Bees.

When the dry weather comes it is necessary to keep a little water in a vessel near the hive. The bees, as well as chickens, hogs and horses,

the most favorable circumstances. We think that under the average circumstances this amount is too large. Better success will be the result if only twenty-five pounds and not more than thirty-five pounds of honey are removed. If there has been an insufficiency of flowers during the honey-gathering season, and but little honey has been collected, all should be left for the bees.

BEES AND OFFENSIVE ODORS.

"Never work at a hive when you are sweating. Bees have a strong dislike to the exhalations of one in a perspiration." That is the advice given in a foreign bee-paper. Some beekeepers in this country, with hundreds of colonies, will smile broadly upon reading such advice.

BEE NOTES.

Some beekeepers work hard all the season to secure a crop of honey, and then store it in such an unsuitable place that when it reaches market they do not get nearly so much for their labor as they would had they spent more thought on having their product reach the market in an attractive condition.

Many in the East store their honey in an upper room or attic. Where this can be done, there is no better place to keep it.

In two or three weeks' time the honey will thoroughly ripen, when it can be prepared for market.

All propolis, or bee-glue, should be carefully removed from each section. This is easiest done with an old table knife.

The honey should be piled a few inches off the floor, and a little out



Beautiful and Fruitful Tulare

Courtesy Visalia Daily Times

need water. Perhaps, in proportion to its size, the bee drinks more water than any other animal or insect. The water is needed to mix with the honey and pollen when feeding the young larvae. The water should not be too cold, or it will chill the bees and have a detrimental effect.

Starting.

Those who have had no experience in the bee business, but who wish to engage in it, should start in a small way. As with poultry, or any other division of the farm, the keeper has to grow and learn with the business. The man who starts in extensively, with no experience, will surely make a failure. Begin with eight or ten stands, and learn the habits and requirements of bees thoroughly before going into the business extensively.

Removing Honey.

The amount of honey to be removed from the hive will depend entirely on the amount of honey the bees are able to collect. If there is an abundance of flowers and the swarm is able to collect a large amount of honey, more can be removed than if only a little were collected. Experienced beekeepers say that not more than thirty-five pounds of honey and twenty pounds of comb should be taken from a colony under

It would work best in a locality where the flowers secrete nectar only in freezing weather, if bees are to be kept on a large scale.

There is an idea among many people that the smell of buttermilk will also anger bees. Before the days of creameries, my milk house overlooked the bee-yard. Sometimes when a swarm came out I would forget to take off my big apron, all spattered with buttermilk, until I was in the thickest of them. The bees attended strictly to their own business and never paid the least attention to the scent of buttermilk.

But I found to my cost that they are very sensitive to the smells of rancid grease. I found an old box that was just right as a rest for a hive of bees. I placed it on the north side of the lilac bush, and put a hive on it, all ready to set up housekeeping. The first swarm I put in came out and went back into the tree where they had first settled. I humored them by putting them into another hive where they staid cheerfully. Two other swarms refused the lilac shade. Then I investigated things and found that the old box had been used for years to set cans of machine oil on. I burned the old box, gave the bottom board a good airing and had no further trouble.—Coleman's Rural.

from the wall; otherwise than near the bottom and side of the room will accumulate moisture.

Comb-honey is often materially injured by removing it from the hive and packing it in shipping cases.

Honey that is sealed will stand much more dampness than that which is unsealed.

Comb-honey sells more readily from looks than from anything else. The nicer its appearance the better the price.

WHY NOT?

The opening of Agricultural Park as a public park on the plans now proposed by the board will give to Southern California a park and a speedway second to none in the United States. We understand that it is the intention of the board to hold agricultural fairs in the same lines as the State fair and other large fairs are held. This we believe will prove very popular, and we suggest holding a mid-winter fair, consisting of agricultural and dairy products, a speed program, horse, general stock and poultry show. To this could be added a display of products made in California.

A fair given at that time when California has so many visiting tourists would not only prove very popular, but would advertise the State in a way,

The three essentials of the best farm wagons are:

- The toughest wood stock thoroughly air seasoned.
- Proper construction and ironing to give the greatest possible strength.
- Light running qualities for the longest possible time.

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This describes the wagons of the International Harvester Company line.

More than that, these qualities are combined in wagons of the handsomest appearance. They are built for the maximum of durability along the most pleasing lines.

**The Weber
The Columbus
The Bettendorf**

are old established makes with well known reputations for superiority.

The Weber, a strictly high-grade farm wagon, has been one of America's leading farm wagons for more than half a century. It is constructed of the very best material obtainable and is adapted to all conditions of climate and service.

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The Bettendorf has an all steel front and rear gear which cannot warp, bend, rot, or shrink under any condition of climate or service, and is capable of sustaining unusual loads.

It makes little difference which of these wagons you buy. You will make sure of wagon value and wagon satisfaction in any event. You simply can't buy anything better at any price.

You should know more about these wagons than we can tell you in this small space. Call on the local agent and look them over, or write nearest general agency for our wagon pamphlets which fully describe each.

Western General Agencies: Denver, Colo., Portland, Ore., Salt Lake City, Utah, Helena, Mont., Spokane, Wash., San Francisco, Cal.

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113 No. Main St., Los Angeles, Cal.

Cabbage and Onions—Use none but the best seed. The Quedlinberg strain of Winningstadt Cabbage is the best. The imported new Queen Onion is the best. Sold only by

**Johnson & Musser
Seed Company**

and with people that would make a lasting impression.

The novelty of a mid-winter agricultural and horse fair would prove as great an attraction to California as the Mardi-Gras is to the South, and would attract visitors from all over the country.

A CHILD'S IDEA.

Little Mabel went to visit her Aunt Sally in the country and had a lovely time, gathering eggs and feeding the chickens. When she came home she wanted her mother to get some hens for her, so they could "raise eggs," as she called it. So her mother got some hens and some nests were made, and then Mabel wanted some china eggs—the kind Aunt Sally had—in her nests. But her mother said: "Why, no dear! it isn't necessary; the hens will lay the eggs without any." "Why, how can they, Mama, without any pattern?"



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Axle Grease
takes miles off the road,
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Helps the team and
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est, finest, best-equipped building of its kind in
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mention the California Cultivator.

Remove black knots from those
plum and cherry trees and burn.
When the knots are removed from a
large limb, rub on a little kerosene.

Household Department

OUR FLAG.

It was born mid the throes of Free-
dom,

'Mid a leaden rain of fire,
When the souls of a troubled Na-
tion

Pressed on to a world's desire;
When patriot hearts were burdened
With weight of deadly fears,
When history paused and trembled
For the issue of those years;
When the pulse of a new-born Na-
tion

Throbb'd ever to the beat
Of martial drums—proclaiming
The rush of tramping feet.

Above a land victorious
The flag of beauty waved
Above the homes of Freedom
Above a Nation saved.
Upon its field of azure

New stars have had their birth,
As in the studded heavens

Which nightly guard the earth.
Around the storied banner

Our faith and love are twined,
Within each bosom loyal

'Tis evermore enshrined
The tireless stars above us

Whose vigils never cease
Shall watch our stars forever

In blessing and in peace.

A FOURTH OF JULY RECONCILIATION.

THE road as far as the eye could see
was dotted with little spiral
spurts of white dust. Every
spurt denoted a wagon-load of merry-
makers bound for the celebration.

"What a lot of us are going!"
laughed the summer boarder delight-
edly. She was little and nerve-worn
and pale—to go to a Fourth of July
celebration seemed such a beautiful
way to begin her long rest!

"Yes, this kind o' weather every-
body turns out," assented Mrs. Torrey
with the placid content of one who
has toiled up to the last minute and
has earned her right to enjoy herself.
"I guess everybody's on the way to
Beatty today, Jason," raising her
voice a little. Jason Torrey on the
front seat was hard of hearing,—
not from age, but the "Torrey
deafness."

"Eh? Yes, yes, I guess so. I've
seen everybody but old Uncle Sleeper,
an' he's dead."

It was hot even for the Fourth of
July. Above the dusty road flaunted
the splendid flag of the sky, unclouded
blue, guiltless of stars or stripes.
The air was full of the keen, stinging
noises of summer. Suddenly a horse's
white nose appeared abreast of the
Torrey's tailboard, then of the back
seat, then of the front. Another
wagon-load of celebraters passed by.

"Oh, look!—one, two, three—five
little girls!" counted the summer
boarder gaily. "We ought to have
some of them in here, with all our
room to let! Wait—six! I believe
there are six—"

"No, five," corrected Mrs. Torrey,
but she was not looking at the load
of little stiff-starched white dresses.
She had not looked at all.

Jason Torrey, on the front seat,
had gazed stolidly into the dust-
flecked distance.

"I didn't see anything but little
girls. They can't be going all alone."

"No, there's a man and a woman
in there somewhere," Mrs. Torrey
said dryly. "Emmeline Clove and
Horatio are both short sitters. It
runs in Emmeline's family, and I
guess Horatio's contracted it. They're
there, fast enough."

"Clove? What a nice, spicy name!
Do they live near us, Mrs. Torrey?"
The summer boarder liked to assume

part ownership in the great white
farmhouse.

"Near? Ask Jason—Jason, she
wants to know if Horatio Clove and
Emmeline live near us."

"Eh? Who's that—oh!" He turned
on his seat and regarded the two
women behind with unsmiling face.
"Oh, them—well, you tell her, 'Livia,
that they live about a hundred 'n'
fifty miles away, as near as I make
out! G'lang, Dolly, you snail! Do
you think we want to take all o' the
town's dust?"

"They live the next farm East,"
Mrs. Torrey said, dropping her voice
and twirling her cotton-gloved fin-
gers nervously. "But I guess Jason's
right—it's a good ways off from us.
I haven't spoken to Emmeline Clove
in ten years."

"Why!—why, that's a long time,
isn't it?" murmured the summer
boarder, "and living on the next
farm? Why, Mrs. Torrey, I don't un-
derstand—"

"No," the other woman sighed;
"no, you couldn't very well, without
you understood my Jason and Hor-
atio Clove. Then you'd see. There
was something happened years ago—
ten years."

The summer boarder was interest-
ed. Was there a feud right here in
drowsy, clover-sweet little Green-
acres? Yet it seemed inconceivable
there was nothing in this faded,
prosaic little woman beside her, or
in Jason Torrey's prosaic back, to
suggest anything like that.

"It seems a pity, with all those lit-
tle girls," she hazarded, hoping for
further particulars, "you seem so
fond of children, Mrs. Torrey."

The brown, plain face turned with
a quick movement that was almost
fierce in its intensity. But still
Olivia Torrey spoke cautiously; even
the "Torrey deafness" was not to be
trusted.

"Yes, it is a pity. Yes, I am fond
of children. I'm fond of Emmeline
Clove's, though I guess she don't sus-
pect it! I've never done anything
but watch 'em on the sly—I ain't ever
made a little petticoat, nor even the
edging to trim one—I ain't ever made
'em cookies or little saucer-pies—I
ain't ever had a chance to kiss 'em!"

The longing in the low, restrained
voice was pitiful. For the moment
little Mrs. Torrey's face was tragic.

"And there's five. I've lived next
to five little children, I tell you, and
ain't ever made any of 'em little
things to eat or to wear! Perhaps
you don't think that's anything—you
don't understand; how can you! It's
me that understands!"

The old farm wagon jolted on se-
dately. The sun grew even a shade
hotter and the dust thicker. In the
distance somewhere, on ahead, can-
nons boomed and bells pealed faintly.
But Olivia Torrey had forgotten what
day it was. She sat up straighter and
let her loosened tongue run on softly.

"There was one boy—five girls and
one boy. Six little children, and Ja-
son and I never had any, not any!
Things aren't evened up. When Em-
meline's little boy came, three years
ago, maybe you think it wasn't hard
for me to stay at home and make
bread and mold butter—maybe you
think I liked to!"

The summer boarder put out her
slender white hand and stroked the
cotton glove nearest her, in sudden
pity.

"No, I don't think so—I know it
was hard, you poor thing!" she mur-
mured.

"And the baby a boy, after she'd
had four girls—a little mite of a
blessed boy that I couldn't go over
there and cuddle up! Nor tell Em-
meline how she'd ought to be con-
gratulated—that was as hard as any-
thing, not to let Emmeline know.
Seemed as if I must, and nights I
laid awake thinking how. Then I
thought of a way." She smiled
rather grimly—"It wasn't much of a
way, but I did it. I never knew
whether Emmeline understood. When
I get to heaven I'm going to find out
—I'm going to ask her."

There was a little space of silence,
while they jolted steadily on. Team
after team sped by them—the boom-
ing of the cannons grew louder, and
people shouted to each other and lit-
tle patriotic boys snapped off fire-
crackers under old Dolly's heels.
She jogged along in sedate indiffer-
ence.

"And the way you thought of?—
you didn't say what the way was,"
ventured the summer boarder, after
a little.

"I hung up a flag in the top of Tor-
rey Tree—you know where Torrey
Tree is? It's a landmark, right close
to the edge of our farm. You can
see it all over the town most. I
climbed clear to the top."

"To the top of—that tree! Clear
to the top!"

"Dear, yes, that wasn't anything
much. I used to climb everything
when I was young—Emmeline and I
used to, together. If anything, she
was the best climber. I thought per-
haps she'd see that flag from her
room window, laying there in bed,
and she'd understand that it was me
congratulating her because it was a
boy. 'I'm glad it's a boy—I'm glad
it's a boy!—Horray!' was what I
hoped it would wave to Emmeline,
with 'Olivia' signed to it as plain as
writing. But I never knew. I don't
suppose I ever shall—here."

"Oh, yes, Mrs. Torrey. Oh, I'm
sure you will—I'm sure she under-
stood."

Olivia Torrey did not seem to hear.
She was gazing dreamily at the dim
blue haze of hills on the horizon.

"He died," she said quietly. "He
only lived a few months—and I never
saw him. I never knew who he
looked like, or saw his little hands,
or heard him cry. I was glad I was
away when he died. If I hadn't been
—" her gaze came back from the dis-
tance and rested on the faded, pro-
saic back of Jason Torrey, on the
front seat. They were very near the
city now and coming into the crowds
of holiday men and women and little
children. There was not time to say
much more.

"If I hadn't been," Olivia Torrey
said, "I should have walked across
that 'dead line' betwixt our farm and
theirs, and kissed Emmeline's little
dead baby. I should have—I know
I should. I've always known it. So
I'm glad I was away."

In the trig little city noise and gay
confusion reigned. Flags were flying
from nearly every house, and across
nearly every one of the pretty, broad
streets swung great banners. Little
children were tooting horns and
blowing shrill whistles and firing
crackers. Horsemen in splendid
trappings cantered about importantly,
starting the parade.

"Much as ever old Dolly got us
here in time," remarked Jason Tor-

rey, slipping stiffly over the wheel with the lines across his arm. He held out his big, brown hands to the summer boarder. She thought his sun-burned face looked good and kind—not like that of one who harbored ten-year resentments. It was hard to understand; she felt bewildered and a little out of tune with all the tumultuous merry-making. Emmeline's little dead baby was on her heart.

The parade was splendid. Beatty had never seen its like before. It trailed its slow length past the cheering crowds for an hour. Then the throngs broke up into excited, chattering groups, and elbowed one another crowdedly, hotly. Tired mothers shifted babies to their other arm, and sagged wearily with their little burdens and told each other what a beautiful time they were having. This one had been up since 3 o'clock, "getting ready;" that one had ironed three stiff-starched little best white dresses since she got up and got breakfast and churned.

"Or the cream would have spoilt. It's hot, isn't it? But it's a great success, so far. I'm having a beautiful time, ain't you?"

"Yes, indeed, I guess I am!" shifting the little burden back again. "I guess so!—I wouldn't have missed it for anything. But I wish we could find a place to set down in, out o' the sun," she added wistfully.

Everywhere it was Fourth of July—noisy, blustering, patriotic, hot Fourth of July. Everywhere flags drooped on their poles in the still air. The country was "free and independent," and everybody was glad.

"The oration comes next," explained Mrs. Torrey. "It's going to be out of doors, over there on the green. Jason's old general is going to deliver it." There was a ring of pride in her voice. Jason's share in the grizzled old veteran was not to be disputed. Had they not fought under one southern sky, one battered flag? Did it matter that one had commanded and one had followed humbly?

"Jason's looking ahead to the oration—he wants us to get good places. Of course he won't know Jason, but Jason knows him. Let's go right over—wait!" excitedly, "stop that little girl that's going by, the one with the white dress on. Don't let her get by!" She was fumbling hurriedly in one of the lunch baskets, and brought out a handful of crisp, currant-sprinkled cookies. She thrust them eagerly into the summer boarder's hand. "Give 'em to her. Put 'em right into her little hands. Tell her—no, don't tell her anything; just give 'em. They've got currants in—she'll like currant cookies."

The child sped away with her hands full of them. Her small, freckled face was smiling appreciatively, Olivia Torrey gazed after her.

"She's Emmeline's," she whispered, "the next to the youngest, and her name is"—Mrs. Torrey hesitated a little shyly—"her name is Livvy. I never knew what for, but it's Livvy."

The summer boarder turned, radiant-faced. "I know—for you!" she cried. "Emmeline named her Olivia for you!"

"I never knew," sighed Olivia Torrey. "I don't suppose I ever shall—here. Somebody'll tell me when I get to heaven. And if I find it for me"—laughing, with a sob in her throat—"then I shall ask the Lord to let me come back to Emmeline just for a minute."

"Or hang a little flag out for Emmeline to see," softly breathed the other. "Emmeline would understand."

Jason found them good places, well to the front. He himself stood a little way ahead, directly under a great ragged flag that almost touched his uncovered head. He stood up very straight and soldierly, as if on drill, and threw back his faded shoulders splendidly. Olivia gazed at him with pride.

"Don't he look like a soldier?" she whispered, "with that flag over him, and his shoulders back? And he is one—I guess I haven't told you, but Jason was wounded three times in the war. He almost lost his arm once."

The grizzled old general had lost

his. An empty sleeve was pinned smoothly across his breast. But he was hale and broad, and every inch a commander of men. He came out before them and waited, smiling, for the cheers to end. Then he began to speak.

Someone else stood under the old flag with Jason, though neither seemed conscious of the other's being there. Both were old soldiers; the other man stood straight and soldierly, too. He was shorter than Jason, and more slenderly built, but they might have marched side by side to the front—it was in their bearing. Both their faces were lifted in rapt attention to the face of the speaker.

For an hour he talked to them. He made men laugh and women cry, and little children exult in being American "citizens." It was a masterly speech the old general made, but, better still was the patriotism it preached to the patient throng that stood there in the noon heat and glare. It filled men's hearts with a thrill of country-love and country-fervor. Under the ragged old Stars and Stripes two men cheered side by side.

The flag dipped in a sudden little spurt of breeze, and its shadow swept across their faces. They felt the wind of it, and gazed upward into its faded folds. The same thoughts were in both their minds—thoughts of cannon roar and pelt of rifle balls, and a battlefield gaunt and blood-red under southern skies. The same groans of wounded men were in their ears; they were marching on to the same victory.

Suddenly Jason Torrey's eyes met the eyes of the man beside him. The cheers were still on their lips—the old battle flag was still over them. What could they do? What but the thing they did? With one impulse their brown hands shot forth and met in a splendid clasp, under the flag they both had fought for and both loved.

"Look!—oh, look, look!" cried Olivia Torrey softly. She was grasping the summer boarder's sleeve and pointing with her limp gloved fingers. "Look what's happening there—under that flag. It's Jason shaking hands with Horatio Clove—I tell you, shaking hands! They're pumping up and down! They're smiling!—Jason's smiling—Horatio is—I'm smiling!" But she was crying. "Let's cheer—you and me. No, me! I wish they'd strike up and give me a chance. They'd cheer for the general and Fourth o' July, but I'd cheer because Jason and Horatio are shaking hands! I want to cheer for Emmeline and all the little girls—I want to cheer at the top of my voice—why don't they strike up again?"

Ten minutes later Jason Torrey came striding toward his wife and the summer boarder. He had the lunch basket in his hands.

"Come," he said briskly, "Emmeline's waiting. She wants we should all eat together. We've picked out a shady place, and Horatio's gone to get some ice water for the lemonade. One o' the little shavers is squeezing the lemons. Come!"

"Am I awake? Pinch me!" laughed and sobbed little Olivia Torrey, hurrying along in Jason's broad wake. "Is it the millennium that's come?"

"No, it's Fourth of July, and I'm hungry, and it's dinner time," laughed the summer boarder happily. "I want to help that little Emmeline-girl squeeze lemonade. Hurry, hurry!"

The little Emmeline-girl was Livvy. She gave them a shy welcome, remembering the currant cookies. Emmeline was waiting with shining eyes—they were all waiting.

Afterward, toward the end of the hot, wearisome, beautiful day, the summer boarder drew Mrs. Torrey aside. She nodded toward a little girl in a crumpled, stiff-starched dress.

"I've found out,—you won't have to wait,—she said. "She's Olivia—after you."

Olivia Torrey's tired, happy face softened. "I've found out, too," she said gently, and her eyes lifted to a little flag that flaunted its stars and stripes bravely from a tiny tree top near. "Emmeline understood."

—Epworth Herald.

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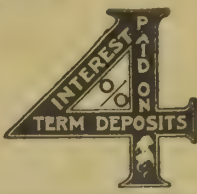
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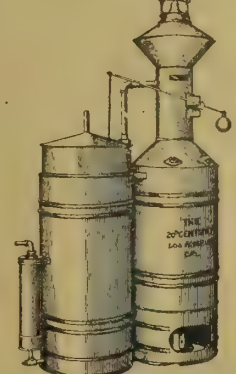
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AT REDUCED PRICES BALANCE OF season from my prize winning Barred Rocks, won all special and 13 regular prizes on Barred Rocks at late Los Angeles show. Eggs from best pens, \$2.50 per 15; \$10 per 100. Can furnish any quantity. Also offer extra bargains in breeding stock. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

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INDIAN RUNNER DUCKS-EGGS AND stock for sale. Eggs, \$1.00 per 15; \$5.00 per 100; stock, \$1.00 up. Black Langshan prize pen, \$2.00 per 15. CLYDE J. MOSS, successor to F. M. Bender, Corona, California.

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CHEAP FOR CASH-ONE 34-H. P. FAIR-banks Gas Engine in good condition, and can be seen in operation at our plant. AXELSON MACHINE CO., 1406 San Fernando St., Los Angeles.

FOR SALE-THE EQUAL OF NEW 30- H. P. White & Middleton gasoline engine at a bargain. 943 No. Main St., Los Angeles.

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FOR SALE-AT A SNAP IN 25-H. P. FAIR-banks-Morse distillate engine in A1 shape. 943 N. MAIN ST., Los Angeles.

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FOR SALE-TWENTY, THIRTY OR FORTY acres fine farming land, 1 1/4 miles from Santa Ana cars; fenced. Price \$150 per acre. Adjoining lands sold from \$250 to \$300 per acre. J. L. TUMMOND, Buena Park, Cal.

Land that never fails to yield profitable results, because only \$12 to \$15 an acre, with water forever 50c an acre per annum. Grain, alfalfa, sugar beets. Good markets and climate. Fare rebated. W. R. GILSON, 411 E. Main St., Los Angeles.

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3000 GOOD, THRIFTY WASHINGTON NAV-EL and Valencia late trees; 1 and 2 years old; at the right price. Free of scale and smut. C. D. HUBBARD, San Fernando, Cal.

LADDERS.

"CHAMPION ORCHARD LADDERS" ARE the very best. Selected spruce. Malleable iron heads, painted. Light and strong. Many of the largest dealers handle them. Sizes, 6 to 20 feet. Price, 27 cents per foot. F. O. B., San Jose. Write for full information and description. H. H. EDMUNDS & SON, 8 Story Road, San Jose, Cal.

HORSES.

STALLION FOR SALE-A PERFECTLY turned trotting-bred horse, by McNear, he by McKinney, dam Ventress by Venture; 16 hands high, over 1100 lbs. weight, 5 years old; kind, level-headed and a picture; mahogany bay. Don't miss this chance. W. E. YEAW, Washington, Nevada Co., Cal.

COWS AND PIGS.

WANTED-A FAMILY WITH THREE OR four boys to take charge of 160 acres on the shares; everything furnished. A splendid opportunity for the right man. Call on or address, J. A. WALTON, Redlands, Cal.

FOR SALE-ONE REGISTERED JERSEY Bull; three registered Jersey cows; several heifers, eligible to registry, and Poland China Boars from two to six months old. Address, J. L. TUMMOND, Buena Park, Cal.

GOATS.

FOR SALE-MALE KID, SIX WEEKS OLD. Imported Swiss (Toggenburg) sire, \$5.00. Address, 130 CAREY ST., Pasadena, Cal.

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FOR SALE-SANTA MARIA DAIRY route, with or without cows; plenty of alfalfa available. No opposition. L. L. LANGLOIS, Santa Maria, Cal.

SIX HUNDRED FRUIT TRAYS FOR SALE cheap. Two by three; good condition. JOSEPH THORNDIKE, Pasadena, Cal.

A plain brown or green wall paper makes an ideal background for pictures, and the absence of pattern on walls adds immensely to the apparent size of the room.

The Produce Markets

Los Angeles Markets

LOS ANGELES, July 2, 1907.

Hot weather prevailing has caused a certain amount of timidity so that buying has been only as actual needs demand, and some of the more perishable fruits have succumbed to the weather. Prices have not been greatly affected and the tone of the market will doubtless recover as the warm weather passes.

Butter.

Butter remains the same as last week in price and no material change in the tone of the market.

Creamery extra.....55@57 1/2
Creamery first.....52 1/2
Dairy.....24

Cheese.

Cal. Young America, per lb.....19
Hland.....20
California Anchor.....18
Cal 3-lb. hand.....20
Northern, fresh.....14 1/2
Domestic Swiss.....23
Imported Swiss.....30 1/2

Eggs and Poultry.

Eggs are still weak. Large supplies are being received which, combined with the unhealthy boost given by speculators earlier, is reacting. Also it is probable that buyers are combined on knocking to break the market. A cent shading in price has resulted during the past week.

The prices given are those of the commission man to the retailer.

Eggs, local candled.....22
Eggs, case count.....20 1/2

The following are average prices which dealers pay to producers for live weight.

Hens, per lb.....11
Young roosters, per lb.....15
Fryers.....17
Broilers, per lb.....17
Old Roosters.....7
Turkeys.....17
Geese.....12
Ducks.....10
Squabs per doz.....1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.
Hogs, from 175 to 200 lbs.....7 1/2@8
Prime steers.....4 1/4@4 1/2
Hieifers.....3 1/2@4
Calves per lb.....5
Sheep, ewes, per head.....4.75@5.25
Lambs per head.....4.50@5.00
Wethers.....5.50

Potatoes.

There is no change in the price of ordinary potatoes, but fancy new are scarce and are selling at \$2.50.

New, Early Rose.....2.00@2.50
New, white.....2.00@2.50

Onions.

The supply of onions is not overabundant, and they are now selling between \$3.50 and \$4.00 a hundred. Last week they were much lower. It is not improbable that the figures will advance until the shippers warrant a lowering of prices.

Silverskins, per ctl.....3.50
Imperial, per sack.....4.00
Garlic.....12

Vegetables.

Asparagus lb.....12 1/2
Artichokes.....65@80
Beets per doz.....30@40
Bell Peppers green lb.....20
Beans, wax.....1@2
Beans green.....3@4
Cabbage, sack.....50@75
Celery, Hothouse, per doz.....1.50
Chili peppers green.....12 1/2
Cucumbers, per 20 lb. bx.....1.00
Corn per bx.....60
Cauliflower.....1.25
Carrots per doz.....30@40
Egg Plant per lb.....15
Green Onions, doz bunches.....10@30
Lettuce, per crate.....50@75
Peas, sugar, per lb.....4@6
Okra, per lb.....20
Rhubarb per box.....1.65@1.75
Radishes per doz.....15@20
Spinach, per doz.....10@15
Summer squash crate.....25@40
Tomatoes per basket.....50@1.50
Turnips, doz bunches.....40
Water Cress per hundred.....40

Citrus Fruits.

Valencias.....1.50@2.75
Navelis.....1.25@2.50
Grapefruit Seedless.....2.00@2.50
Grapefruit Seedlings.....1.25@1.35
Seedlings.....1.25@1.50
Lemons, fancy.....2.00
Lemons, choice.....1.25@1.50
Tangerines, halves.....1.50@1.75

Fresh Fruits.

Apples, Ben Davis.....1.50@2.00
Apples, Red Astrachans, box.....90@1.25
Peaches.....1.75@2.00
Crab Apples.....1.35@1.50
Apricots.....1.25@1.50
Blackberries.....4
Currants per 4 bskt crate.....1.10@1.25
Cherries, loose.....12
Cherries black.....1.25@1.50
Cantaloupes Ponies.....2.00
Cantaloupes, Ponies.....1.75
Figs, black, per lb.....6@8
Figs, white.....10
Grapes, per 4 bskt crate.....1.30@1.75
Gooseberries per lb.....8
Logans.....5@6
Loquats.....2 1/2@3
Peaches, per box.....1.35@1.65
Plums.....1.25@1.35
Raspberries.....5@8
Strawberries.....2@3 1/2
Watermelons, per lb.....1 1/2@1 1/4

Dried Fruits.

Evap. Apples, fancy per lb.....8 1/2@10
Apricots.....20@22
Peaches.....12 1/2
Pears.....13
Prunes, 40s to 50s.....7 1/2@8
Prunes, 50s to 60s.....7
Prunes, 60s to 70s.....6 1/2
Prunes, 70s to 80s.....6
Raisins, layers, 3 Crown, 20 lb bx.....2.00
Raisins, clusters, 4 Crown, 50 lb bx 4.00
Raisins, clusters, 4 Crown, 20 lb bx 2.25
Raisins, clusters, 5 Crown, 20 lb bx 2.75
Raisins, clusters, 5 Crown, 5 lb bx.....90
Raisins, clusters, 6 Crown, 20 lb bx 3.50
Raisins, clusters, 6 Crown, 5 lb bx.....1.00

Beans, Dried

Limas per ctl.....5.30
Pink No. 1.....3.00
Lady Washington.....2.90
Small White.....3.20
Black Eyes.....5.50@6.00
Garvanzas.....5.75@6.00
Lentils.....12 1/2@15

Honey

The prices we give are those at which the jobber sells to the grocer in small lots. The producer should take from this one cent a pound commission and freight to Los Angeles, and there will remain the net returns to him.

Extracted White.....6
Light Amber.....5@5 1/2
Comb, water white, 1-lb. fms.....12@15
Light Amber.....10@12

Nuts.

Almonds per lb.....19@25
Peanuts, Virginia.....9
Peanuts California.....6@7
Walnuts, No. 1 S. S.....14@15

Hay.

Barley, No. 1.....14.50@16.50
Barley, No. 2.....11@12
Alfalfa Northern per ton.....13.00
Alfalfa, local.....12.00
Alfalfa new.....12.50@13.00
Plain oat No. 1 new.....13@14
Wheat No. 1.....12@14

Grain.

Purchasing prices f. o. b., Los Angeles are:
Wheat, new, per cwt.....1.70@1.75
Wheat, Sonora.....1.52 1/2@1.57 1/2
Barley.....1.17 1/2@1.22 1/2
Corn, Eastern, sacked.....1.50

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn.....1.65
Shorts.....1.45
Bran.....1.30
Egyptian corn.....1.65
Rolled Barley.....1.40
Feed meal.....1.70

A FOREST OWNED BY A CITY.

The citizens of Helena, Mont., have a plan to convert the unsightly slopes of Mt. Helena, which lies just outside of the city, into a forest park. A great deal of interest has been awakened throughout the State by this project, for the people of Helena will not be the only ones to benefit by it, since it is an object lesson to cities in other parts of the country.

The city of Los Angeles, too, has its possibilities in its 3000-acre park of hill and mountain which now has some fine trees and in time will have more. May it take advantage of its opportunity to its fullest and make a rest spot which for years to come will benefit the human race.

San Francisco Markets

SAN FRANCISCO, July 2, 1907.

The market has been subject to bull and bear influences, with the bulls generally on top. The bull element is represented by the leading receivers of Eastern goods and, by keeping the local market up, they expect to advance the value of their holdings or at least to obtain more remunerative prices when the time comes for marketing them.

Butter.

California ex per lb.....26
California firsts.....24 1/2
California seconds.....23 1/2
Packing stock.....23

Cheese.

California, Young America, fy.....14 1/2
California, flats, fancy.....13 1/2
Eastern fancy.....18 1/2

Eggs and Poultry.

Fresh ranch eggs.....24 1/2
Eggs, first, per doz.....22
Eggs, seconds, per doz.....19 1/2
Eggs, thirds.....19

Hens, per doz.....5.00@5.50
Hens large.....5.50@6.00
Young Roosters.....7.00@8.00
Old Roosters.....4.00@4.50
Fryers, per doz.....5.00@7.00
Broilers, per doz.....3.50@4.00
Ducks, young.....4.00@6.00
Geese, per pair.....1.75@2.00
Turkeys, per lb.....1.60@1.90
Pigeons.....1.25@1.50

Live Stock.

Steers No. 1.....7 1/2@8
No. 1 Cows and Heifers.....6 1/2@7
Hogs, 80 to 200 lbs.....7 1/2
Hogs, 200 to 300 lbs.....7
Calves per lb.....4@5
Lambs yearlings.....6 1/2
Wethers, No. 1.....5 1/2@6
Ewes, No. 1.....5@5 1/2

Potatoes

Salinas Burbanks ctl.....2.50@2.75
Oregon Burbanks.....2.50@2.75
Rivers.....1.00@1.60
New potatoes, Early Rose.....2.40@2.60

Vegetables.

Asparagus.....7@12 1/2
Cucumbers per box.....1.00
Corn per doz.....25@40
Chili peppers green lb.....20@30
Green peas per lb.....4 1/2@5
Squash per box.....1.00@1.50
Peppers Green Bell.....20@30
Rhubarb, per box.....75@1.25
Tomatoes, California.....60@65
String beans.....4@5
Wax beans.....2@2 1/2

Onions.

Onions new Reds.....2.65@2.75
Onions Br Australia per ctl.....3.50@4.00

Citrus Fruits.

Lemons.....1.00@4.00
Navelis.....1.50@3.00
Seedlings.....1.25@1.75
Grapefruit, seedless.....1.75@3.00
Limes.....4.50@5.00

Fresh Fruits.

The market generally was rather quiet and easier for seasonable fruits. Prices, however, were still considered high and beyond the reach of a great many would-be consumers. Owing to the hot weather at producing points berries were "cooked," in the language of the street, and prices were correspondingly soft. Two carloads of watermelons came to two different houses.

Apples, per box.....1.00@1.75
Apples, new, per small box.....35@50
Apples, new, per large box.....75@1.25
Crab Apples.....75@1.25
Apricots, per box.....1.25@1.65
Blackberries, per chest.....2.50@4.00
Currants, per chest.....9.00
Cherries, blk.....75@1.25
Cherries, white per box.....75@80
Cherries, per lb.....8@10
Figs, 1 layer.....50@60
Figs, two layers.....65@75
Gooseberries per lb.....8@10
Grapes per crate.....2.25
Logans, per chest.....6.00@7.00
Melons, per crate.....1.50@2.00
Plums per box.....50@1.00
Peaches per box.....1.00@1.25
Raspberries per chest.....3.50@7.00
Strawberries per chest.....8.00@10.00
Watermelons per lb.....5

Dried Fruits.

Apples (evap.).....6 1/2@8
Apricots per lb new.....20@25
Figs, white.....4@5
Prunes four sizes.....4@5
Peaches.....10@13
Pears.....7 1/2@12 1/2
The f. o. b. quotations on the 1907 raisin crop, October delivery, have been announced as follows: Fancy seeded, 12-ounce cartons, 65-8c; Choice seeded, 16-ounce cartons, 7 1/2c;

Choice seeded, 12-ounce cartons, 6½c;
Loose Muscatels, 3-crown, 63-8c;
Loose Muscatels, 2-crown, 5½c; Seed-
less Muscatels, standard, 55-8c; Seed-
less Sultanas, unbleached, 5½c; Seed-
less Thompson's, unbleached, 6½c;
Imperial Clusters, 3-crown, \$3.00;
Dehesa Clusters, 5-crown, \$2.50; Fancy
Clusters, 4-crown, \$2; London Layers,
3-crown, \$1.40; London Layers, 2-
crown, \$1.30.

Beans, Dried

Limas No. 1 5.25@5.35
Pink 2.30@2.50
Large White 2.40@2.65
Black Eyes 4.90@5.00
Red Kidneys 3.50@3.75
Bayo, 2.85@3.00

Hops.

Fancy, 11c; choice, 8@10c; prime, 7@
8c; common, 5@6 per lb.

Nuts.

Almonds, new 17½@18
Peanuts, California 5½@6½
Walnuts 12@16

Honey

Clear White Comb 16@16½
Amber 12@13
Extracted 5@7
Beeswax, per lb 25@30

Hay.

Alfalfa, local 11.00@13.50
Oat 12.00@17.00
Wheat No. 1 16.00@21.00
Wheat, No. 2 13@17

Grain.

Wheat, No 1.... 1.50@1.52½
Barley, No. 1.... 1.20@1.22½
Corn, small yellow.. 1.55@1.60
Corn, yellow..... 1.45@1.50
Oats, White..... 1.55@1.75
Oats, Red..... 1.60@1.75
Bran, per ton.... 20.00@22.00
Straw, per bale .. 50@70
Feed Corn Meal, per ton .. 32.50@33.50
Cracked Corn, per ton 33@34
Oil Cake Meal, per ton.... 40.00@41.50
Cocoanut cake, per ton.... 27.50@28.00

Citrus Market

LOS ANGELES, July 2, 1907.

The warm weather touched the East and has not seriously affected the orange market and has been most helpful to the lemon market. Oranges are still selling well and the few navels at the eastern end are commanding good figures. The navels are all gone from this end and, in fact, everything excepting valencias. These are in firm fine condition and the promise now is that they will hold up their end of this most successful season.

Lemons are the favorite and the weather has put them on the upward move. The output is not as large as last year.

Shipments to date are 24,429 cars of which 2528 were lemons. Last year same date, 23,719, of which 2961 were lemons.

NEW YORK CITY, July 1.—The market is very strong and higher on oranges, very dull on grapefruit, excepting extra fine grades. Weather hot. Thirty cars sold.

NAVELS—

Average.

Lochinvar, xc, R H Ft Ex.....\$3.10
Quail, xc, O K Ft Ex..... 2.35
Red Globe, xc, Riverside Ft Ex.. 2.65
Quail, xc, O K Ft Ex..... 2.40
Parrot, xc, S A Ft Ex..... 2.55
Red Globe, xc, Riverside Ft Ex.. 3.05
Cerrito,, Or Gr Cash As..... 3.65
Orchard, or, National Or Co.... 4.65
Columbia, Ch, National Or Co.... 3.35
Flower, or, Upland Dis..... 2.70
B. Keystone, Ch, King Ft Co.... 2.85
R. Keystone, St, King Ft Co..... 2.40

ST. MICHAELS—

Arrowhead, xc, S B Ft Ex..... 3.75
Carrier, St, S B Ft Ex..... 3.20
Blue Print, Fy, Riverside Ft Ex.. 3.60
Red Print, Ch, Riverside Ft Ex.. 3.20
Old Mission, Fy, Chapman's.... 4.15
Old Mission, Ch, Chapman's..... 3.95

SWEETS—

Golden Orchard, Independ't Ft Co 2.80
Ocean, Fy, Speich & Co..... 3.55
Mountain Lion, Fy, Speich & Co 3.10
Choice, Ch, Speich & Co..... 2.50
Victoria, xf, A H Ft Ex..... 1.75
Tally-Ho, Ch, S B Ft Ex..... 2.50

Yacht, St, S B Ft Ex..... 1.25
Corwin's, Fy, W S Corwin..... 3.25
Corwin's, Ch, W S Corwin..... 2.85
Slover Mountain, or, Colton Dis.. 3.35

VALENCIAS—

Golden Orchard, Independ't Ft Co 3.20
Blue Seal, xf, A C G Ft Ex..... 4.00
Red Shield, xc, A C G Ft Ex.... 3.10
Lochinvar, xc, H G Ft Ex..... 3.75
XXX, xc, S T Ft Ex..... 3.55
EEE, Ch, S T Ft Ex..... 3.05
Pointer, xc, A C G Ft Ex..... 3.10
Signal, xf, Stewart Ft Co..... 3.75
Solano, or, Stewart Ft Co..... 3.05
W. Highland, Fy, Highland Dis.. 3.40
Lion Head, xf, I L Lyon & Sons.. 4.30
Tiger Head, xc, I L Lyon & Sons.. 3.25
Independent, Fy, Highland Dis.. 3.10
Independent, Ch, Highland Dis.. 3.10
Old Mission, Fy, Chapman's.... 4.65
Old Mission, Ch, Chapman's.... 4.10
Golden Eagle, St, Chapman's.... 3.05
El Toreador, St, S Marino G P Co 2.55
Titus Ranch, Ch, Marino G P Co 2.65
Iris, xf, D M Ft Ex..... 3.50
Violet, xc, D M Ft Ex..... 3.00
Green Print, St, Riverside Ft Ex 2.00

GRAPEFRUIT—

Whittier, xc, Redlands Junction.. 2.30
Pine Cone, xf, S B Ft Ex..... 1.45
Arrowhead, xc, S B Ft Ex..... .65
Parrott, xc, S A Ft Ex..... 1.65
W. Highland, Fy, Highland Dis.. 1.25
Iris, xf, D M Ft Ex..... 1.70
Violet, xc, D M Ft Ex..... 2.20
Stag, xf, A C G Ft Ex..... 2.75
Independent, Fy, Highland Dis.. .80

LEMONS—

Corwin's, Fy, W S Corwin..... 4.65
Corwin's, Ch, W S Corwin..... 3.75

CLEVELAND, O., July 1.—The market is weak and the weather hot and muggy. Six cars sold.

NAVELS—

Aver.

Red Globe, xch Riverside Ex Riv \$2.60
California Orange st Riv Ex Riv 2.00
Colombo st A H Ex Prenda..... 1.95
Partridge xch Cal C U..... 1.85
Lilac ch Cal C U..... 1.45

ST. MICHAELS—

Carmencita xch S T Ex Fullerton 3.60
Colombo st S T Ex Fullerton.... 3.35
Squirrel fy A H Ex Prenda..... 3.90
Palm Tree xch A H Ex Prenda.. 3.15

VALENCIAS—

Heap Good fy Patte & Lett..... 3.05
Date Palm ch Patte & Lett..... 2.20
Palm Tree xch A H Ex Prenda.. 2.45
Spanish Girl st A H Ex Prenda.. 2.65

SWEETS—

Palm Tree xch A H Ex Prenda... 2.10
Cavaller st A H Ex Prenda..... 2.05
Heap Good fy Patte & Lett..... 2.25
Date Palm ch Patte & Lett..... 1.90
Carnation (Mikes) M & Green.... 2.65
Heap Good (Mikes) Pattee & Lett 2.05

GRAPEFRUIT—

Palm Tree xch A H Ex Prenda.. 3.95
Heap Good fy Pattee & Lett..... 1.90

LEMONS—

Palm Tree xch A H Ex Prenda.. 5.00
Cavalier st A H Ex Prenda..... 4.75

PHILADELPHIA, Pa., July 1.—The market is firm on good stock and the weather is hot. Three navels, one sweet, one seed, three Valencias and five mixed cars sold.

NAVELS—

Aver.

R Keystone st King Ft Co.....\$2.75
Cosmos fy S B Ex Yerkee..... 2.70
C. S. O. st S B Ex Yerkes..... 2.05
Old Baldy xfy Cal C U..... 1.55
Belt st R H Ex Highland..... 2.50

ST. MICHAELS—

Red Globe xch Riv Ex Riv..... 3.15
Blue Globe ½ Riv Ex Riv..... 1.90

SWEETS—

Independent ch Highland Dist... 3.10
Honest Pack xch Tustin Pack Co 3.00
Lone Palm Tustin Pack Co..... 2.95
Canoe ch Tustin Pack Co..... 1.90
Independent st Highland Dist... 2.40
Red Globe xch Riverside Ex Riv.. 3.00
Cosmos fy S B Ex Yerkes..... 2.45
C. S. O. st S B Ex Yerkes..... 1.80

VALENCIAS—

Stag A C G Lateen Spur..... 4.25
Pointer xch A C G Lateen Spur... 3.40
Hunter st A C G Lateen Spur... 3.50
Stag xfy A C G Ex Azusa..... 4.30
Pointer xch A C G Ex Azusa.... 3.75
Lone Palm Tustin Packing Co... 3.85

Slover Mt. o r Colton Dist..... 3.60
GRAPEFRUIT—Red Globe, \$1.10.
BLOODS—Red Globe, \$2.30.

PITTSBURG, Pa., July 1.—The market is very strong and the weather hot. Eleven cars sold.

NAVELS—

Aver.

Stag xfy A C G Ex Azusa.....\$3.80
Pointer xch A C G Ex Azusa..... 3.50
Rook st Ely-Gillmore Co..... 2.65
Columbia ch Nat O Co..... 3.05
Standard st Nat O Co..... 2.90
Coyote ch O K Ft Ex..... 2.50
Blue Jay st O K Ft Ex..... 2.50
Lark ch O K Ft Ex..... 2.60
Owl st O K Ft Ex..... 2.35
Yankee Doodle H G Ex Highgrove 3.25

SWEETS—

Climax o r Edmund Peycke..... 3.20
Deal Edmund Peycke..... 2.80
Golden Rule xch Riv Ex Riv..... 3.30
Our Pride xfy H G Ex Highgrove 3.25
Yankee Doodle H G Ex Highgrove 2.75

VALENCIAS—

Mountain Lion fy F H Speich & Co 3.60
Stag xfy A C G Ex Azusa..... 3.90
Pointer xch A C G Ex Azusa.... 3.60

ST. MICHAELS—

Golden Rule 3.35
Pointer..... 3.45

BOSTON, Mass., July 1.—The market is very strong and higher. Weather hot. Seventeen cars sold today. Twenty cars on tracks.

NAVELS—

Aver.

Cupid fy V C Ex Fillmore.....\$3.65
Cycle ch V C Ex Fillmore..... 3.30
Golden Rule xch Riv Ex Riv..... 3.60
Quail xch O K Ft Ex..... 2.85
Pet xch S A Ex San Dimas..... 3.25
Greyhound ch S A Ex San Dimas 3.55
Greyhound ch S A Ex San Dimas 2.55
Lochinvar xch R H Ex Highland 3.75

VALENCIAS—

Pointer xch A C G Ex Azusa.... 3.50
Hunter st A C G Ex Azusa 3.45
Signal xfy Stewart Ft Co..... 4.30
Tiger Head xch I L Lyon & Son 4.00
Solano o r Stewart Ft Co..... 3.90
SS st Stewart Ft Co..... 2.75
Victory xch Cal C U..... 2.30

GRAPEFRUIT—

Mayflower Richardson.... 2.85
I X L fy Benchley Ft Co..... 2.15
Buena st Benchley Ft Co..... 1.20
Stag xch A C G Ex Azusa..... 2.65

ST. MICHAELS—

Flamingo xch Cal C U.... 3.20
Blue Globe xfy Riv Ex Riv..... 4.70
Blue Globe ½ Riv Ex Riv..... 2.15

LEMONS—

Old Glory xfy Flagler Ft Co.... 5.00
Cry Baby Flagler Ft Co..... 4.15
Silence Flagler Ft Co..... 4.55
Rossmoyne fy E M Ross..... 2.90
Rossmoyne ch E M Ross..... 3.20

SEEDLINGS — Flamingo, \$1.60.

BLOODS—Red Globe, \$3.80.

The sheep shearing plant at Bak-
ersfield consists of twenty stalls each
equipped with a shearing apparatus.
One man is located at each stall,
while others have charge of the
sheep in two corrals. A runway
goes from each stall to both the
shorn and wool corral, arranged with
gates, which open into the main lanes
and are easily operated by the em-
ployees. The shearing machines are
to be operated by a twenty-five horse
power gasoline engine, and the cost of
the entire plant will be in the neigh-
borhood of \$2000. It will be com-
pleted in about two weeks.

The night has a thousand eyes,
The day but one;
Yet the light of the whole world dies
With the setting of the sun;
The mind has a thousand eyes,
The heart but one;
Yet the light of a whole world dies
When love is done!
—Christian Manhood, St. Louis.

For sprains, wrap the parts in
flannel cloth wrung out of boiling
water, cover with a dry bandage
and give the parts absolute rest for
several days.

BUYING A FARM WAGON.

If the wagon question is up with you
this season, you cannot do better than
call and have a talk with the local agent
of the International Harvester Com-
pany of America. He will call your at-
tention to three wagons sold by the
company—the Weber, the Columbus
and the Bettendorf—and you are sure
of making no mistake, no matter
which one you decide to buy.

The three I. H. C. wagons above
named are made to meet trying re-
quirements. The Weber and Columbus
are made from the toughest of wood
stock, properly air-seasoned and ironed
to give the greatest strength without
making them cumbersome or giving
them a log-wagon character. For the
Bettendorf, the gears are made of
steel. That does away with warping
and springing and is a guarantee
against breakdowns, if you want to be
prepared for extra heavy hauling or
roads rougher than the ordinary. It
is also a wagon well suited to all cli-
mates. All three are distinguished for
their light running qualities.

The local I. H. C. agent can supply
catalogues and other printed matter
describing these wagons in detail.
There is no better man for you to go to
if you want to be sure of not going
wrong when you buy your wagon.

WHY HE CRIED.

The little boy came out of the room
in which his father was tacking down
a carpet. He was crying lustily.

"Why, Tommy, what's the matter?"
asked his mother.

"P-p-papa hit h-h-his finger with the
h-h-hammer," answered Tommy.

"Well, you should not cry at a thing
like that," said his mother. "Why
didn't you laugh?"

"I-I did," sobbed Tommy.—Maga-
zine of Fun.

In a rural justice's court the defend-
ant in a case was sentenced to serve
thirty days in jail. He had known
the judge from boyhood, and addressed
him as follows:

"Bill, old boy, you're agwine ter
send me ter jail, air you?"

"That's what," replied the judge.
"Have you got anything to say ag'in
it?"

"Only this here, Bill. God help you
when I git out!"—News.

"Uncle," said the scientific youth,
don't you know that you ought to
have your drinking water boiled, so
as to kill the microbes?"

"Well," answered the old gentleman
thoughtfully. "I believe I would as
lief be an aquarium as a cemetery."

Gyer—That spinster aunt of mine is
certainly the limit.

Myer—How's that?

Gyer—I presented her with a loud
ticking clock recently and she sprink-
led the works with insect powder.

Myer—What did she do that for?

Gyer—to get rid of the ticks.

Relation between employer and em-
ployee wherever the latter prove to
be Japanese is becoming less and less
cordial on orchard and ranch over
the Northern portion of the State.

Papers over the San Joaquin val-
ley state that dairymen are complain-
ing bitterly because of lack of milk-
ers, and that the milking machine
is increasing in favor.

One man near Hanford is said to
have killed 137 rattlesnakes. Either
there are many rattlers in that sec-
tion, or Kings River water makes
people see things.

High roosts cause bumble foot.

Addison Double Plunger Pump Head



It will pay you to investigate the Addison before purchasing a pump. Send for Catalogue B.

Addison Pump Company

Phones: Home 81; Sunset, Black 1551

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STEARNS GASOLINE OR DISTILLATE ENGINE

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A Handy Little Engine

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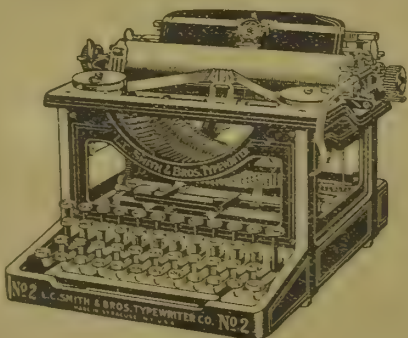
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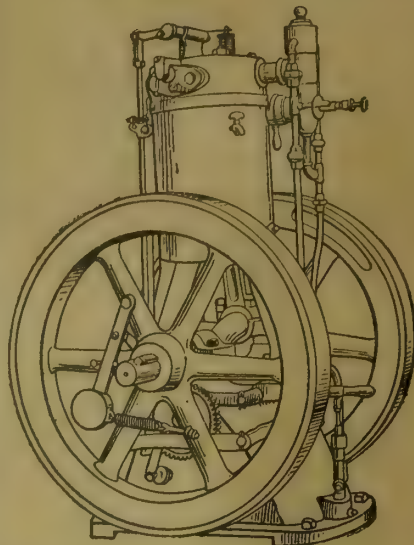
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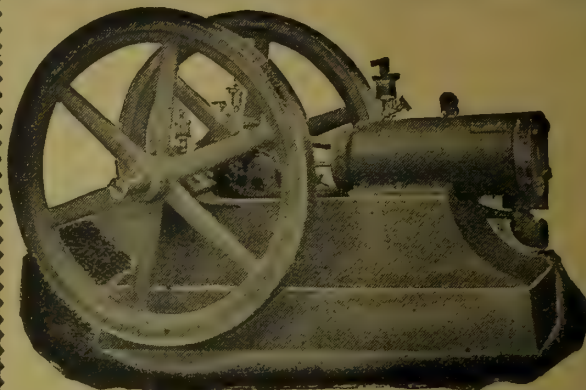
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This Gun Has a Record of One Hundred and Fifty Gophers Without a Miss



Concussion Can't Miss

Patented April 21, 1906

"SURE POP"
CONCUSSION GUN

Price \$1.00 Post Paid
6 for \$5.00, 12 for \$9.00,
Express Prepaid

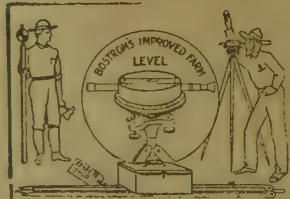
Weight, 10 ounces. Length, 7 inches.

Made of brass and will not rust. Shoots 38 Central Fire Blank Pistol Cartridges. Simple in construction and a rapid exterminator of Gophers, Moles and Small Animals. Send for circular. Order a sample today.

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California Cultivator

Los Angeles

July 11 1907

San Francisco

National Aid to Irrigation



IN AN ADDRESS before the people of Salinas, who are taking steps to secure government aid in a large irrigation system, Ex-Governor George C. Pardee said:

"I happen to know, for I had a finger in the pie, that the Reclamation people have argued and begged and pleaded with the people of certain parts of California where irrigation works would be easy and cheap, to take advantage of the government's offer. Parts of the San Joaquin and Sacramento valley have thus been laid seige to; but the efforts put forth have, in most cases, been without any results at all. The people who should have been easily

and quickly interested have hung back. The result is that other States and Territories have stepped in and taken the cake that should in part, at least, have been ours. But the Reclamation people are by no means discouraged, neither are we who, having no lands of our own to irrigate feel, nevertheless, that California's good is our good, and that, "sink or swim, live or die, survive or perish," we live for California, first, last and all the time, and that permitting nothing to discourage us, we shall continue in the good work as long as we can or it is necessary for us to do so." "Uncle Sam is desirous of seeing every American family possessed of a home."

Coulson's Improved Mash Egg Food

Takes Less Feed

Makes More Eggs



IF YOU WANT PLENTY OF EGGS THIS FALL AND WINTER when prices are high, you must lay your plans now. The hens must be given a strong feed which will enable them to get through the molt without loss of condition, and they will then quickly commence laying again.

First, see that your hens are healthy when they start to molt. At this time of the year, after a heavy laying season, they are apt not to be at their best, and a little of *Coulson's No. 3 Condition Powder* will put new life into them, and enable them to thoroughly digest and use the good food which they specially need.

At the same time, they must have the best food you can give them from the commencement of the molt. You will find *Coulson's Improved Mash Egg Food* is just what is required. It is strong in protein, due to the blood, meat, bone and oil cake meals which it contains.

Put Up in 90-lb. Sacks Directions in Each Sack

Your hens will not need to eat so much of the concentrated food to obtain the egg-making and feather-producing materials they need, thus saving their digestive organs and your pocket at the same time.

Coulson's Improved Mash Egg Food is therefore beneficial in two ways. Less feed is required and the hen gets just what she needs, with the result of a quicker molt and more eggs.

First cost is not everything, but even in this respect, **COULSON'S IMPROVED MASH EGG FOOD** shows to advantage. A 90-lb. sack will make a meal for 1250 hens. This is just over 2 lbs. a hen a month. Think how many eggs does it take to pay for this feed? In November, only 1 egg, and not more than 2 on the average.

We know what this feed will do by results on our own poultry ranch, as well as from testimonials from pleased customers all over California. What it does for others, it will do for you.

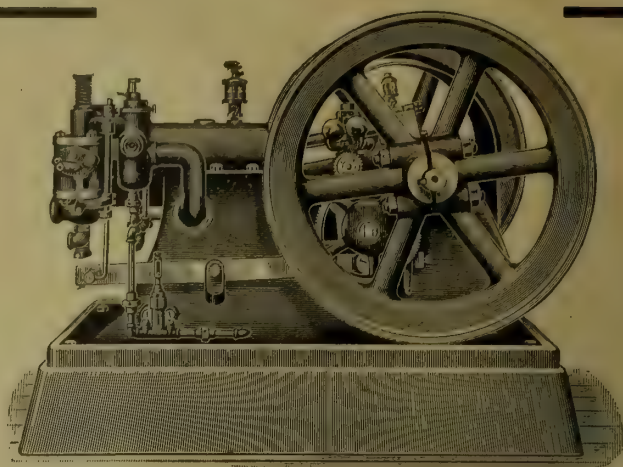
Give a trial order to your dealer; if he does not keep it, write to us, and we will either advise you where you can get it locally, or supply you direct.

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See them running in our salesroom.

SEE the DISTILLATE CARBURETOR SEE the POSITIVE IGNITER
SEE the FUEL-SAVING, WEAR-AND-TEAR-SAVING GOVERNOR

SEE OTHERS, BUT DON'T BUY UNTIL YOU'VE SEEN THE
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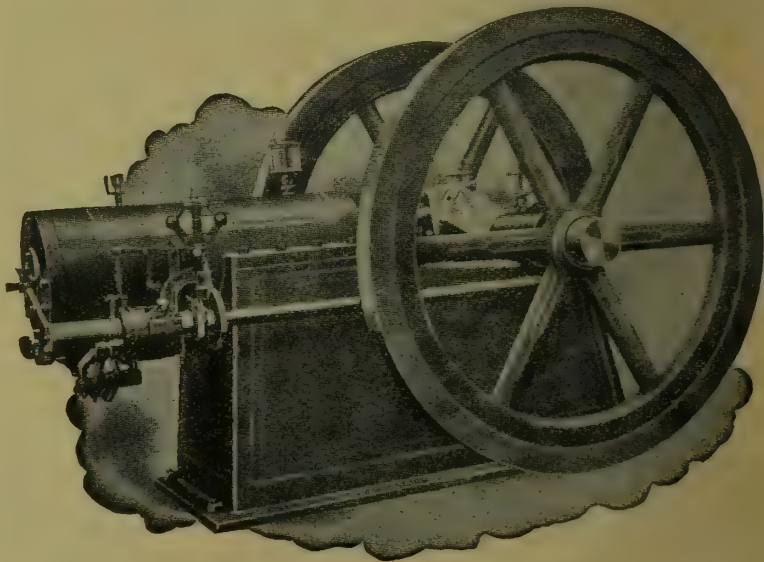
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Columbus Machine Co., Columbus, Ohio

Have stood the test fourteen years.



4 to 60 horse power.

Observe its simplicity. This is a result of fourteen years labor of the largest gas-engine manufacturers in the world to produce a simple, durable and economical engine, easy to operate, no trappy devices, few working parts, backed by the strongest guarantee.

You run no Risk in Buying a Columbus Engine

There are reasons why. Best of workman and finest quality of castings is the starting point. Let us show you the rest. **PUMPING PLANTS INSTALLED.** Two more carloads on the road.

Greenleaf-Compton Co.

121 South Los Angeles St.

Los Angeles Cal.

National Wood Pipe Company

Woodward Pat. Machine Banded Pipe, Wheeler Pat. Continuous Stave Pipe, Bored Wood Water Pipe

Made from California Redwood **WOOD PIPE** Or Selected Puget Sound Yellow Pine

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A Booklet, "The Whole Story About Wood Pipe," mailed free upon request.

When writing advertisers, mention Cultivator.

California Cultivator

Vol. XXIX—No 2

Los Angeles, California, Thursday, July 11, 1907

Subscription \$1 a Year

Treatment for Gooseberry Mildew

Which Will Save the Vines and Give
a Large Percentage of Perfect Fruit

A SUBSCRIBER in Humboldt county has sent a number of diseased gooseberries to this office with an urgent request for immediate assistance because of the fact that her gooseberry crop is being ruined by a most perplexing mildew. It forms on them making them unfit for use.

It is perhaps too late to be of assistance to our friends in Humboldt county for this season, but a remedy given at this time may be of value, in this, that it will attract attention to the trouble and people will be prepared to meet the same enemy another year. To that end we give an illustration of its appearance taken from a bulletin issued by the New York Agricultural Experiment Station, which gives a fair representation of the appearance of this diseased fruit, excepting perhaps that most of the fruit sent to this office is a darker brown in appearance than the diseased fruit in the engraving. This is because the fruit is further advanced in the disease.

Regarding this disease, we quote from the bulletin written as to conditions in New York, which would doubtless be the same in California, unless it be as to the time of the year, for we assume it might appear earlier than last of May or first of June in this State. The bulletin says:

Appearance.

"The gooseberry mildew generally makes its



Gooseberry Affected With Mildew

appearance during the last half of May or first half of June. It is first noticed as glistening, frostlike spots on the fruit on the lower part of the bush where there is usually dense shade. As the disease progresses the spots enlarge, turn dark brown and form a feltlike covering over a part, or all, of the berry. In a slight attack the disease may not injure the fruit at all, or only slightly deform it. In a bad attack the fruit has a repulsive appearance, is stunted in development and may be more or less decayed.

Will Practically Destroy Plants.

Two or three weeks after the mildew attacks the fruit it appears on the young, tender twigs, especially on their tips. If the attack is severe the new growth will be destroyed and the older growth will be considerably injured. In case of a very severe attack the fruit will be rendered worthless, and the foliage will be nearly, or entirely killed during July. As a result no fruit buds are set for the next year's crop, and the bushes are so badly weakened that they suffer from winter injury. In a few commercial plantations where little or no spraying has been done, the writer has seen the crop of fruit destroyed and the bushes practically ruined by this disease.

Concluded on Page 43

The Growing of Bulbs

Continued from Last Week

Hyacinths.

This is doubtless one of the most popular winter flowering bulbs, largely grown by florists for "forcing," but it is so universally admired, it is wanted in the border or in the window garden. These bulbs are all imported from Europe and arrive during September and are not successfully carried over, in other words get new bulbs every year. They should be planted as soon as possible, either in pots, pans or beds. The following directions should be carefully followed: Plant bulbs in loamy soil, leaf mold and well rotted manure, about equal parts with good grainage. The top of bulbs should be covered very lightly or about even with the soil, thoroughly water to settle the soil about the bulb, then these bulbs (pots or beds) should be covered with coarse litter, (leaf mold is best) to depth of six inches, or more, and kept in cool place for about two months, or until a good root growth is made and leaves are up about two inches, when they can be uncovered, and given light and more warmth. Care should be taken that a good root growth is made before giving them any light. Without this root growth you will get no flower stem. Followed with liberal use of manure water, but discontinue as soon as in full bloom. Often they are grown in glasses and are elegant ornaments. Use only single varieties as they produce finer spikes than the double, and they open better.

Fill the glasses nearly full of clear water, almost touching the base of bulb, using a little charcoal to keep water pure (water should be changed about once a week) place them in a cool dark cellar or similar place for six weeks or two months or till roots are nearly to bottom of glass, then bring to light and air, avoid drought and

sunshine. Another good way is to "transplant" the bulb after roots are made, to the aquarium, by using board or cork to keep bulb from tipping into water.

Roman Hyacinth.

This is a small flowering bulb, of similar habit to above, but is hardy outside and blooms perfectly and freely. Can be left in the ground from year to year, but best to take up every year about June or July, dry, store and replant in fall. Hardy bulb.

Iris.

There are so many species and varieties it almost requires a special article to describe. Most of them are imported during September and October. It can be planted at once and blooms during early spring. Some are evergreen such as Germanica and Kaemferi and need not be disturbed while Susana should be taken up and stored with tender bulbs.

Ixia.

Beautiful little bulb from Cape of Good Hope, large showy flowers, bulbs arrive in September, thrive without being disturbed like Freesia. Treat the same.

Jonquil.

Jonquil culture is the same as narcissus. Many people order these bulbs thinking they are ordering the Trumpet Narcissus, which is a mistake. This is a small flowering bulb of the narcissus family with same care and culture.

Lily of the Valley.

Millions of these bulbs are now annually imported from Europe and are at once placed in cold storage, and planted as wanted in 'forcing

beds" in greenhouse in high temperature and brought into flower, which operation requires only about 20 days from time it is taken out of ice to full bloomed flower. Not successfully grown outside in Southern California although in many places in Northern California is perfectly hardy.

Lilies.

Great quantities of lily bulbs are imported yearly from Bermuda and Japan. But lately it has been found many varieties thrive in California. Such varieties as Harrisii, Longiflorum and Canadensis, thriving first class. They should be taken up at least every other year, separated and replanted. These bulbs must never be dried, but if to be kept should be stored in damp sand or moss. Plant in August to February. Should be kept growing as long as possible, to perfectly ripen bulb and mature offshoots.

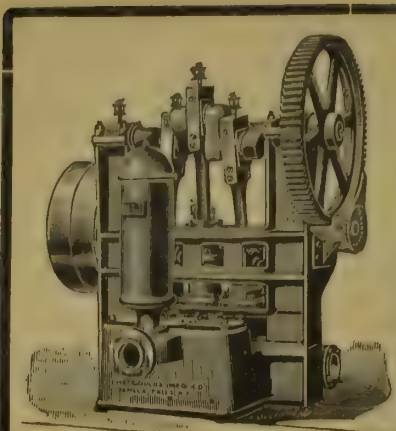
Montbretia.

A hardy evergreen bulb, thrives any and every where, should be divided every two years and thinned out, best time for this is September. A striking and beautiful bulb to mix with your fern bed. But if not watched will soon crowd ferns out, can be dried off and stored like fall or hardy bulbs.

Narcissus, Daffodils, Etc.

The Narcissus are divided into several classes such as Polyanthus or cluster bloomer. Those most commonly represented here are the Chinese Sacred Lily and Paper White, a pure white variety, and the most popular are the Trumpet shaped flowers both single and double with but one flower to the spike, coming in different shades of yellow and white. They are mostly im-

Concluded on Page 36



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500,000 each of Brandywines and Excelsors ready for August planting. My plants are thoroughbred—the only kind its worth while to plant. Brandywines, \$2.50 per thousand; Excelsors, \$3.00 per thousand. Other varieties later with a full line of small fruit plants. Catalogue ready about September 1st., which I will gladly mail to all who will send their address and mention this paper.

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Deciduous Fruit Culture

CHEMICAL VALUE OF GREEN CROPS.

THE real chemical value of green manuring crops is something of an indefinite quantity in the minds of most of us and just what they are worth aside from their humus producing value, is an interesting subject. There is a vague sort of idea among some growers that these crops when grown in sufficient abundance will supplement the use of fertilizers entirely. This idea has been advanced by some of the best horticulturists in the country and it may be a correct view and results have no doubt been obtained that demonstrate the fact. Nevertheless, citrus culture for instance, in California seems to show that green crops are not alone sufficient.

Investigations at the Delaware Station have shown some interesting facts that have a bearing on the subject, applicable to our or any other sections. The idea that the roots of green manuring crops are the richest in nitrogen, is quite natural as it has been taught that the free nitrogen of the air is absorbed through the agency of nodules growing on the roots. It is also known that the nodules on the roots contain a larger percentage of nitrogen than do the roots themselves, but the tops contain a larger per cent than the roots as a whole. The following figures were obtained from the different crops in the dry-air state. Cow peas tops and roots, nitrogen 1.75 per cent and 1.40 per cent respectively. Potash, 1.27 and .76 per cent. Phosphoric acid, .45 and .73 per cent in the tops and roots respectively. Analyses of vetch show, nitrogen 3.53 and 2.19 per cent; potash 2.56 and 1.18 per cent; phosphoric acid .74 and .79 per cent in the tops and roots respectively. Alfalfa, nitrogen, 2.42 and 2.04 per cent; potash 1.42 and .48 per cent; phosphoric acid .58 per cent and .43 per cent in the tops and roots respectively.

The roots of all the above plants are mostly near the surface. The following figures are taken from the Delaware bulletin and may not stand for California conditions, still they do show their characteristic as an annual crop for green fertilizer. Cow peas had 301 pounds of roots per acre to a depth of 8 inches and in the next 4 inches but 9 pounds. Vetch had 584 pounds in the first 8 inches and 16 in the next 4 inches.

This shows that the roots really amount to very little as humus producers, but they have a very beneficial effect in opening the soil and allowing the water and fertilizer to penetrate more rapidly. They also bring the mineral fertilizers from below to the surface. This has always been considered an advantage, but we question it. We are eternally trying to devise some way of getting our commercial fertilizers as deep into the soil as possible. These two conditions are decidedly at variance, but nature is on the side of the growing plant and there is enough compensation somewhere to more than balance this disadvantage, if it is a disadvantage which assertion we do not make without reservation. The facts in the case are, that we put the fertilizer as deep into the soil as we can get it with a drill or plow and plant the green manure crops which immediately pumps all that it can assimilate, near to and above the sur-

face. At the same time the plants are drawing from the lower depths to the surface, almost the entire amount that they absorb. There is a constant flow of these elements to the surface.

It is quite commonly supposed that the nitrogen contained in leguminous plants is in a form that is immediately available when turned under, for the use of other plants. This is not proven to be true though it seems reasonable to suppose that the roots and especially the nodules are rich in available nitrogen.

It is now well known that it is not necessary for the bacteria that gather the free nitrogen from the atmosphere to have a host plant on which to grow. It is known that the soil is full of them, but their work under such conditions is slow and in many cases of little value when compared with the work done in conjunction with growing plants like legumes.

The percentages used above are of the dry matter of tops and roots weighed separately.

HINTS TO BERRY PACKERS.

Don't forget the golden rule, and do unto others as you would have them do unto you.

Don't forget that every quart of berries is picked and packed for some one to eat.

Don't forget to pick and pack them as you would like to have them if you were buying them to eat.

Don't forget that you can by a little painstaking instruction soon teach your pickers to fill and round up their boxes so they will not need repacking.

Don't forget that repacking bruises the fruit and often hurts the sale of our berries more than anything else.

Don't forget to have your pickers understand that you will pay a good cent for the picking of every good box and only a piece of a cent for a piece of a box.

Don't forget that a good, honest, attentive, generally respected lady or gentleman will make you more money working right with the pickers, seeing to it that all the boxes are properly filled, than three or four packers will at the shed, turning and returning the boxes tumbling and bruising the berries several hours after they have been picked.

Don't forget that you can often get your berries into the shade several hours sooner by this plan than you can by trying to properly fill and repack thousands of carelessly filled quarts with a lot of "jolly" high-priced packers at the shed.

Don't forget that the sooner berries are placed in the cooler after they are picked the longer they will carry.

Don't forget to try to make a good name for yourself and your products.

Don't forget, in the beginning of the season, to let your berries get ripe before picking them, but as the season advances and the weather gets warmer, pick them firmer.—W. A. Walker in N. W. Horticulturist.

RASPBERRIES TRAINED SIDEWAYS.

C. J. Anderson, Sumner, Wash., who is considered a leading intensive raspberry grower, puts a post by each hill on which a short crosspiece is nailed near the top. Last year's vines on which fruit is borne the present season are tied in such a way as to pro-

trude to one side, leaving space for the new shoots to grow straight up without interfering with the bearing canes. This method makes picking easier and the fruit can be picked more evenly as to its ripened stage.—N. W. Horticulturist.

THE BENEFITS OF IRRIGATION.

In a recent speech at Petaluma Professor Fortier, in discussing the benefits of irrigation, had the following to say concerning the Sacramento Valley:

I know that opinion is divided as to the beneficial effects of irrigation in the Sacramento Valley. But the final decision in this case does not rest with the land owners. It will eventually go to a higher tribunal. Nature itself will decide the issue. No land, however fertile, can be made to produce successive crops of grain without a change. Summer fallowing helps, but it incurs the loss of a crop every alternate year. In course of time the good effects of summer fallowing will cease. By the aid of the natural rainfall it is possible to introduce a rotation of crops which will improve the fall it is possible to introduce a rotation which will ever become general without irrigation. When we say that nature will decide the issue, we mean that the time is not far distant when the owners of the large estates will be forced to sell or to irrigate.

Men tell us that between three and four thousand millionaires own one-fifth of the wealth of the United States. Possessing so many privileges, it is comparatively easy for the rich man to add an extra million to his wealth, but difficult for the poor man to increase his scanty savings by one hundred dollars. The concentration of capital seems to be followed by a more perfect organization of labor. The men who work for corporations are joining hands for mutual aid and protection. Between these two great powers, represented by capital and labor, the only safe balance is the conservative vote of the American farmer. One of the strongest reasons, therefore, for the extension of irrigation is that it provides prosperous homes for a dense rural population—a population that is independent of both the trust magnate and the walking delegate.

I have no desire to assume the role of advocate for the cause of irrigation. Perhaps it would not be strange if a life devoted to the construction of irrigation works and the solution of problems which confront the irrigator should be biased in its favor. Nevertheless, I have tried to be conservative in all the statements made and I feel confident that the people of the irrigated portions of this State will support me when I state that irrigation makes gardens and orchards out of the desert places; it increases the yield of both field and orchard in localities where a rainless summer robs the soil of its moisture; tends to subdivide the large estates into small irrigated holdings; converts low-producing grain lands into intensively cultivated small fields; adds greatly to the number of diversified farms; lessens the imports and increases the exports of all soil products; does away with the isolated life of the farmer by the density of rural settlements; provides most of the advantages of both country and city life; and constitutes the same anchor of the State by the establishment of an ever-increasing number of prosperous farm homes.

Customer—Bring me an extra good steak, and have it very rare.

Waiter—Boss, a extra good steak in dis heah restant's allus very rare!

CROPS BETWEEN TREES.

There is no objection to raising a crop between the rows of young fruit trees provided always the crop is one which must be cultivated, "a hoed crop" to use the general term, and that the soil is of sufficient richness to supply the proper plant food to the cultivated crop without the trees suffering in consequence. For the first two or three years after the young trees are set, hoed crops may be grown among them with profit but it is always advisable to have those crops which may be removed in time to seed the space to a cover crop for the winter, this crop to be plowed under in the spring and furnish humus, to the soil. After the third year, unless the soil is of more than the average richness, it is not advisable to grow any crop in the orchard.

SOME FRUIT OUT OF THIS STATE.

To California's shipments of oranges, lemons and grapefruit, which now reach 30,000 carloads annually, Pacific Coast growers are adding thousands of cars of fruits and vegetables, a large part of which come from lands lately reclaimed from the desert by irrigation. Cantaloupes and table grapes that rival the finest hothouse products are the most rapidly developing additions to California's output. Last season's cantaloupe shipments amounted to about 600 cars, and this season it is expected 1000 cars will be shipped.

This year's shipments of deciduous fruits, which begin with cherries in May and end with grapes in November, are expected to show a decrease of about 1000 cars as compared to last year's output of 8000 carloads. The reason for this is the constantly increasing output of California canned goods, the growers preferring to sell to the canners, and the decrease of fresh fruit is more than made up by larger shipments of other fruits and vegetables. Celery growers alone near Los Angeles sent 2700 carloads to market this season.

HUMUS IN THE SOIL.

Professor Whitney, of the Bureau of Soils, says humus acts as a sponge in the soil and absorbs toxic poisons which are given off by the plant roots. However this may be, the farmer must add humus to his soils to make them produce good crops. There are several ways in which humus is increased in the soil. To make the matter clear to those who do not understand what humus is, it might be well to state that humus is the dark-colored mold left after organic matter or vegetable matter has decayed. Then in the light of this explanation farmers will understand that any organic matter turned under and allowed to decay will form humus. Barnyard manure, straw, stalks, etc., the plowing under of green growing crops, such as clover, cowpeas, rye or any crop used generally for green manuring will add humus to the soil.

The lack of organic matter is usually noticed by the soils becoming out of condition. They run together and cake after heavy rains. When such a condition occurs the farmer should spare no pains to add this highly essential part.

FRUIT AND FERTILITY.

Next to tomatoes, it has been found that strawberries make the least demand on the soil. An acre of ground producing 6000 pounds of berries will be called on to give up only eight and a half pounds of nitrogen, three pounds of phosphoric acid and ten

pounds of potash. In other words, the land will have to put only about one-tenth as much plant food into a crop of berries that it would into a crop of corn. The berries will generally sell for about ten times as much as the corn. So that for the same number of dollars of return, the soil will only have to give up about one-hundredth as much plant food.

There is nothing removed from the

plat except the fruit and this, like tomatoes, is largely water. It is necessary to pay some attention to the fertility of the soil and to occasionally apply fertilizer.

Perhaps the best material for this purpose is well rotted barnyard manure. It is necessary to have the manure well rotted so that the plant food it contains will not be scattered through too great a bulk and all the

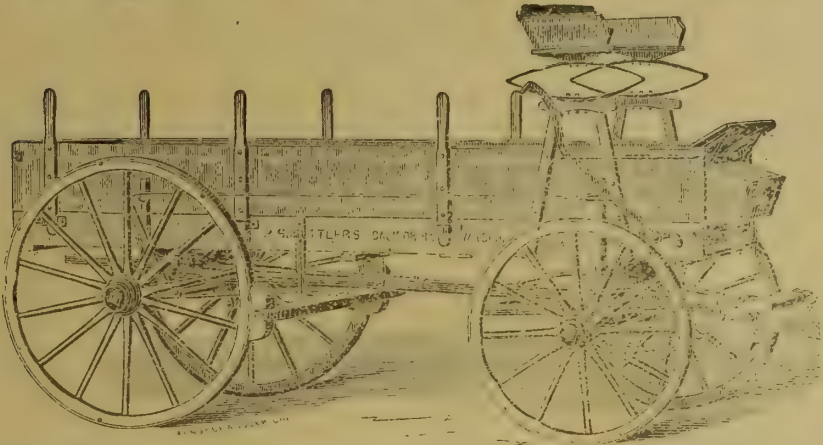
weed seeds that it contains will be dead.

MEAN HUSBAND.

Mrs. Scrappington (in the midst of her reading)—Here is an item which says that full-grown rhinoceroses cost \$12,000 apiece.

Mr. Scrappington (meanly)—Eh-yah! And isn't it a pity that women can't wear them on their hats?—Smart Set.

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Ask to see our Roller Bearing Farm Wagons—also made by the Peter Schuttler Co.—absolutely the lightest draft wagon manufactured. We have sold a number of these and they are greatly pleasing our customers.

Haul this seasons crops on a new wagon.

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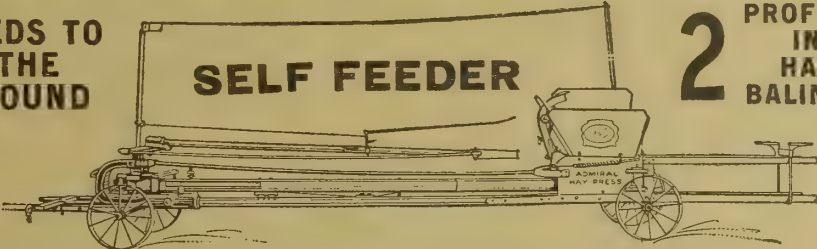
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Concluded

THE pure food laws are making the foods we use better. Milk, butter, and cheese have now to be pure and of full nutritive value. The oleomargarine men welcomed this law at first, thinking they could prove the coloring matter in butter and cheese to be illegal. Custom had long demanded that yellow should be the color of butter and cheese. The Secretary of Agriculture decided that this use of harmless coloring matter could not be longer called a deception, no matter if it had at first been intended as one.

Bacterial Counts.

The next attack on the dairymen was the counting of the bacteria in the milk. This too has passed in the more enlightened places, as it really was an expensive way of showing the uncleanness that careful sanitary inspection corrects. The number of bacillia might be millions in one sample and yet not be deadly, while the milk with the lowest count might be carrying typhoid, tuberculosis or diphtheria, a very few bacteria of these being enough to do mischief.

Style.

There is a place, let us say in the moon, where the health officer has been trying to force the dairymen to conform to a certain style of wagon. One of the most conscientious of these milk dealers has been arrested for delivering milk in an old-fashioned wagon. Why? Style was lacking, for it could not be claimed that milk in sealed bottles could be affected by riding on a buck board. These things tend to make laughable the efforts to regulate the business.

Man, proud man,
Drest in a little brief authority,
Most ignorant of what he's most assur'd,
His glassy essence—like an angry ape,
Plays such fantastic tricks before high heaven
As make the angels weep!

Preservatives.

The manufacturers of preservatives made money rapidly by putting up a cheap chemical, and charging a high price for it to the dairyman. The manufacturers are the men that should have the blame, rather than the milkmen, who were often ignorant of any harm. The oily-tongued agents cajoled, lauded and assured the dairyman that the drugs were harmless.

Creamery Promoters.

California dairymen, a few years ago, were also the victims of the creamery promoter. Creameries were built where there was not enough cows in sight to support them. The dairymen took stock to half the amount of the estimated cost, the promoter put in a three thousand dollar plant and charged for it a round sum of ten thousand dollars, taking half of his pay in stock. The running expenses were borne by the dairymen who had put in all the cash or given their personal notes for it. When the creamery failed, as it was bound to do, the mortgages took the machinery and left the dismantled building. It was again used by the same promoters to fit out an-

other creamery on same plan—for a little paint made it look like new. Often the machinery was sold, three or four times, until it brought in a revenue of twenty thousand dollars and was good for more money until at last a happy accident burnt up the bankrupt creamery. Today the creamery promoters have moved to newer sections.

Building up the Soil.

The dairymen works with Nature, for he is a builder up and not a pul-der down of the fertility of the soil. The dairy brings wealth to people of small means, and it is easily handled as a family affair. I know the industry has been taken up by wealthy men as a money-making scheme and they have attempted to control the creameries but not successfully. The skimming stations of many of the large central plants are today standing idle, for whenever an attempt to under pay the dairyman has been made, he at once formed his own creamery association or else bought a separator and shipped the cream to market further away. Wherever the price is highest there the cream goes in train loads.

Educating the Dairymen.

The result of shipping cream has been a liberal education on sanitary lines to the remote dairymen. The milk and cream has to be well cared for or else it arrives an bad shape and is rejected. The premium has been put on clean stables and clean milkers. Clean milkers? Are they to be hired in your neighborhood? Not often, I fear, can they be induced to be in a sanitary condition themselves.

Milking Machines.

The milking machine is slowly coming to be a practical matter. Today, the milking machine is perfect enough to do its work when in skilled hands. Now it is down to the economical question, at present few of the users are able to reduce the forces of men needed, sufficiently to carry the interest and repairs on the machine. While the milking machine costs more than hand milking at present, it is so much cleaner that the consumer may see that milk drawn by it is worth more to him, and be willing to pay more for it. The time is surely coming when it will pay in California to produce the best milk. The womens clubs are doing work along the lines of educating the housewife in caring for the milk when it reaches the home. Really it is not surprising that the stomachs of our grandfathers and grandmothers were better than ours today. How much the ordinary refrigerator, as kept in the homes, has to answer for? The continued state of being grouchy in temper, sallow of complexion and never feeling that it is joy to be alive are often to be laid to the unsanitary condition of the refrigerator.

Better Prices.

The dairyman, as he adds to the expense by cleanliness, should combine for a price that will pay for the labor of whitewashing, clean duck suits for the milkers, sanitary pails and the carding of the cows. The dairyman today, who is ignorant and careless receives a larger return than the clean up-to-date man. Cleanli-

See us for Sanitary Milk Bottles...O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

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ness may be classed as our duty, the advanced prices as our rights; while it is well to think less about our rights than our duties in a moral sense, in a business way it may not be well to forget either. It is said that "the meek," meaning those that regard the rights of others, "shall inherit the earth;" but as the modern prophet, Elbert Hubbard, put it, in his way, the other man will have the real estate before the meek man can robate the will."

Sold Up Your Head.

The dairy in California has a great future; a country where all things grow to the greatest perfection can be made to produce as much butter per cow as in any other part of the world. When an industry reaches a high place it is carried there by the men that stand behind it. When the dairymen has ambitions, then he will come to his rights and honors. We must think the industry worthy of our best efforts and make others think well of it. Then have patience and more kindness—a little more love to sweeten life around us. Patience with the milker in his ignorance. Kindness to the gentle cows, feeding and sheltering them better. A little more love for everyone, and for ourselves as part of God's world. Living our lives in all conditions, loving and respecting ourselves in doing the work laid down before us. —Minna E. Sherman.

INJURING THE BOAR.

It seems that some one who is interested in breeding swine should call a halt on breeders who are overcrowding work on their herd boars. The hog may be hoggish, but like all other things in nature, he has his limit. It requires the breeder to exercise the best of judgment to decide when that limit is being approached, and put on the breaks. The boars should be raised, cared for and handled with skill and intelligence, with an understanding of his capacity as a breeder, in order to secure the best results.

It is a well-known fact that a boar that is overworked will produce a poorer quality of pigs during that time. He can not be expected to do his best in a condition where his resources have been drawn on too heavily.

There is no rule to be laid down that could be applied to all, as there is too much difference between animals. But in many cases too little thought and reckless handling is the cause of the failure of boars to breed.

It is my opinion that this desire upon the part of owners to overwork their breeding animals is caused from the high price or cost of the boar and their anxiety to be getting their money back. This undue pressure on the boar really kills the goose that lays the golden egg. Nature will not respond and the hog stops breeding and the wheels of money-making through him cease for the time being.

Another cause for this over-taxation of the breeding boar is the fact of dividing up the boar into a half, quarter or third interest to different breeders. The owner of an interest works him up to the last moment of his time to get all he can out of him. When he reaches his other owner he commences as quick and works as

long as his time permits, and hence comes a stoppage of breeding.

It is no inherent wrong in the animal himself, but is altogether owing to the manner of handling him as breeder and drawing upon his powers beyond his endurance and hence violating a law of nature. The blame is generally laid to the hog, whereas it should be to the handler. It is a loss to the breeder to overdo this. In the first place, because of the disappointment; in the second place, because of the discount in the quality of the pigs that are produced.

Owing to the many failures we believe that it is sufficient warning of itself to prevent these occurrences, but believe it will be good for breeders to reflect and consider this question and remedy it as they no doubt will, as they have always proven equal to the occasion heretofore

HOG CHOLERA.

Here is a man losing his hogs. Every day a few of them die. They will be seen one after another to burrow deep in the litter, shiver, as if cold, refuse their food, and next day they are ready to haul out.

His neighbors come around and offer consolation by telling him that it is not hog cholera at all, and incidentally suggesting a remedy or two, such as charcoal or sulphuric acid. Then, with their feet covered with litter contaminated with the deadly virus picked up in the pens, they cut cross lots for home and examine their own pigs to be sure that they are all right, and thus spread the infection.

A number of outbreaks have been traced to the feeding of swill from hotels; presumably, the infection is in the pork rinds of infected hogs.

Hog raising is destined to be a great industry in this State, but let us be ever on guard against this swine plague, which usually not only takes the profit but the capital invested as well.

In case the disease is suspected, dissect a few of them as soon as they die; if they have red patches on the belly, ulcers in the large intestines, the lungs inflamed, and are dying a few every day, do not hesitate, but get busy. It is a waste of time to dose them with nostrums. The most successful way seems to be to separate all the healthy hogs from the sick ones and put them in clean pens or a field. Keep on doing this. Burn the dead hogs, and disinfect the premises where they have been. By doing this, a large percentage of them may be saved.

The other method consists in standing around, when not hauling off dead pigs, and experimenting with sundry specifics.

I can almost hear some man, with comments not altogether complimentary, suggests that he at one time tried a certain hog cholera cure and only lost twenty-five per cent. of his hogs, and had he only used it a little sooner, he could have saved them all. Hog cholera is a germ disease deadly in the extreme. All kinds of remedies reasonable, and those foolish in the extreme, have been tried, but the average death loss is something like ninety per cent. Brother, do not be deceived; your loss is likely to be one hundred per cent. next time in spite of your remedy. If the disease is with you, get busy and clean up. One ounce of prevention is worth more than all the cures ever heard of for hog cholera.

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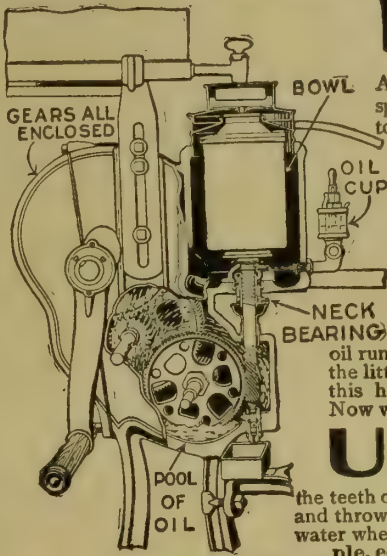
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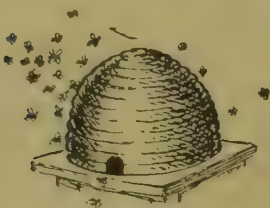
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The Vegetable Garden

GIVE BLACKBERRIES ROOM.

A WRITER in Rural New Yorker gives his ideas of the proper space between blackberry rows, and his opinion is based on a close study of the habit of growth of this fruit. He says:

"In my opinion many of our fruit-bearing plants are deprived of sufficient room. By severe pruning and constant mangling of the roots with plow and cultivator they can be kept small, but at any time when they have an opportunity they will occupy a much larger space. The roots of a blackberry will only have to grow four feet to reach its next neighbor's roots. I have had them make that much growth the first year from a root cutting. We must consider that while the canes of the blackberry are biennial the roots are perennial. Anyone who has ever plowed an old blackberry plantation knows that every inch of the ground is occupied. This is the case whether the plants were set close or far apart. In the case of the girl on the farm there is this additional reason for giving them more room: She will do most of the picking and perhaps all the pruning, and with her clothing she needs more room to get among them. There was nothing said about summer pruning and we all know that a blackberry bush left to itself after the first year will send out laterals even more than four feet sometimes. In that case they would touch. Half of that growth cut off after the fall of the leaf would leave a four-foot space, but the fruiting branches would reduce this to three feet or less. A successful grower who told me that the blackberry was the greatest mortgage lifter he knew, said that if he planted any more they would be 10x10 feet. In setting blackberries so far apart the plant is the unit, not the row. Suckers will come up so that each hill becomes a small plantation."

"Raspberries are supposed to require less room than do blackberries. Many years ago I planted about an acre, with the rows ten feet apart, thinking I could raise a wide row of strawberry plants in each space. The second year the laterals reached from row to row. In the early spring they were cut back severely, and the result was that the fruit stems were from 20 to 30 inches long. The crop was immense. Two bushels were picked from one side of a row 13 rods in length."

THE CACOEZELLE SQUASH.

This new addition to our new supply of vegetables is a most excellent one. It supplies the place of the ordinary summer squash and the eggplant and is far better than either. A half dozen hills will supply an ordinary family all through the season. If planted now it will begin to bear on some of the first days of September and continue until frost comes, when the squash can be picked and stored away in a cool but not too dry a place. Under favorable conditions they remain in good condition for three months. They may be stewed like the common summer squash with olive oil, salt and pepper; or fried as the eggplant after first being dipped in an egg batter. A half a squash can be used at a time, the remainder will keep perfectly fresh for three to five days. There is no waste as they do not require peeling, nor do

they need soaking out as do the eggplant. This squash must be picked while green or during the time it will yield to pressure.—J. C. O.

THE FOOD OF THE MOLE.

Professor Byche, of the University of Kansas, who has lately made a careful inspection of the stomachs of a large number of moles, reports that their diet consisted of earthworms, 42.3 per cent; ground beetles, 27.7 per cent; grubs 22.8 per cent; vegetable matter, 3.7 per cent and insect eggs, 7.3 per cent. As a result of his investigations he contends that the mole is a friend rather than an enemy of the lawn keeper and gardener, his only fault being the somewhat unsightly ridges which he now and then makes in his travels.

HOW TO KILL SLUGS.

The so-called slugs that skeletonize the leaves of many plants during the summer are all comparatively easy to destroy.

The Ornamental Garden

TIMELY FLOWER GARDEN HINTS.

THE next two months constitute a period of only moderate activity in gardens hereabouts, writes Sidney Hockridge to the Redlands Facts. An important thing just at this time is the collection and laying aside of seeds for sowing by and by. Provide some paper bags, or, what is better, stoppered bottles or tin boxes with lids. All varieties must be carefully marked. To neglect this will result in endless confusion. Such seeds as poppies are gathered when the capsules become dry. It is not necessary to pull them out; one hundred of these capsules will yield perhaps one-quarter of an ounce of seeds. This will serve as a guide for the quantity necessary to sow your plot next season. About the city are many gay patches of Booster poppies. If those having them pick the seeds carefully for the next few days there will be enough to greatly extend the poppy idea next year, besides leaving an abundance for the places where they are growing now.

The delicate Shirley poppies appear to have done the best. I have seen some very pretty displays of crimped pink, white, red and bordered ones. The gory tupil poppies appear to have fallen "where they had not much earth" and except at West Redlands very few of these are to be seen. In a few cases the coarse, ungainly double opium poppies are seen growing on the sidewalks. This should be relegated to the shrubberies or sown in broad masses. It is not adapted to the streets and does not look well there.

Besides the poppies many other flowers will be found to have an abundance of seeds at this time: Nasturtiums, scarlet fox, pansies, cornflowers, snapdragons, soapflower, gailardies, calliopsis, coryopsis, sweet peas, etc.

These home-saved seeds are superior, for you may read on the packets of all dealers that he gives no warranty, "express or implied;" and while the home-saved article will not, unless you are careful to mark the flower, which may be of aristocratic lineage, you will find that they are of recent date.

As the slugs devour the surface tissue of the leaves in each case, they may be killed by a thorough application of any of the arsenical poisons such as Paris green, London purple or arsenate of lead. Upon low plants it is equally as well to mix the dry poisons in twenty times their own weight of common flour and then dust them upon the plants through a cheesecloth sack held in the hand.

In the case of the fruits, especially cherries, where it is not safe to use the above poisons, white hellebore powder may be used instead. If applied as a spray, put three ounces of the powder in one gallon of water; as a dust, it may be used without dilution in a cheesecloth sack and a light application made. The best time to apply the hellebore is towards evening.

The slugs can be removed from cherry, pear and plum trees by thoroughly sifting fine road dust, or freshly slacked lime over the foliage in the middle of a warm day, when the slugs are upon the upper side of the leaves.

Begin in time, be thorough, and do not let the slugs destroy your trees or roses.—C. P. Gillette, Colorado Agriculturist College.

When cutting down marguerites and geraniums after flowering, be careful to leave the cup tops to lie among the stumps for a week or so; this is to prevent sun burning. Often if this is not done the plants become scorched and die out. All plants and trees after severe cutting back should be watered sparingly until the new growth begins.

CALIFORNIA PRIVET.

One of the best plants for making an ornamental hedge and which has been grown around Denver for the last quarter of a century is the one known as the California privet. It is really a Japanese plant, but coming east by the way of California, it got to be called California privet. It is not a thorny plant like the barberry and other hedge material and can be used as a boundary line or for screening purposes. It has large, bright green leaves, which are evergreen in sheltered places. With this it has quick growth and it is these good points which recommend it as hedge plant. Years ago the common privet was used for hedges, but it has rather small, dull green leaves, which do not remain on the twigs through the winter and so in time it fell into disrepute. Planted in but fair soil the California privet makes a good hedge in three years. It is like many another shrub in that it inclines to grow tall and as this is not what is desired in a hedge plant it needs watching at first so that a thick, broad base may be produced. It is easily raised from cuttings made from dormant shoots which must be planted in early spring and irrigated persistently throughout the summer.—Field and Farm.

No water plant is more attractive than the nasturtium. If thrifty slips are cut from the plants and placed in a glass vase, a network of roots will soon be filling the vase. Put pieces of charcoal in the glass, keep in a warm room, add water as it evaporates and soon the bloom will be almost unceasing.

If you have a jardiniere of ferns be sure to give them plenty of water. A fern that has become thoroughly dry once or twice is practically ruined; at least it will never have the same old strength again.

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

ed Mites.

My hens insist on leaving the nests, others sit on edge of nest box. They are weak and combs are very pale. Do you suppose the warm weather is the cause?—G. B., Fresno.

Red mites are causing the trouble. Get rid of the mites or they will get rid of the hens. Clean up your nests; use paint or spray with lice killer and kerosene emulsion.

odder.

Enclosed find a sample of a weed or vine growing in my alfalfa patch. It twines itself around the stalk of the alfalfa. It is on the increase and seems to hinder growth of alfalfa. Will you kindly advise what it is, and how I can destroy it from further seeming damage?—S. S. B., Corning.

This is nothing more nor less than the perplexing pest, dodder. It is a parasite which lives on the alfalfa and other plants. Its seed germinate in the ground, but the plant must have another, or host plant to attach to, to grow and mature seed. It may have been introduced with your alfalfa seed or possibly with irrigating water from the mountains, more probably, the former. If it appears in spots only, pile straw over the affected spots and burn. If this kills the alfalfa it may be reseeded later with clean seed. The seed is like alfalfa seed only much smaller. A writer in the Cultivator recently suggested that a covering of dirt over the affected spots would smother the dodder seed and yet permit the alfalfa to come up through.

Fungus Affected Leaves.

I send under separate cover leaves and twigs from my Yellow Egg and Green Gage plums. Can you tell me the trouble? The trees are 4 or 5 years old, on white ash land well drained and no hard pan. Peach trees in the same row as the plums are doing finely at the same age. All the trees were sprayed twice with Bordeaux 5-5-40, in November and February. No signs of root knot or borers. Trees afflicted last year died this season and more afflicted this year. Trees are on Myrobalan roots.

I have taken the best of care of this orchard.—K. V. L., Fresno.

These leaves were referred to Mr. Mills and he answers: "The plum leaves are affected by some fungus that resembles Shot-hole somewhat, but still there seems to be a difference. Bordeaux mixture is the medicine for the trouble and should be used in the winter. It is useless to use it at this stage. The fungus has done its work and has passed the fruiting period."

We will endeavor to get further information and ask any subscriber who can give light on the subject to write us at once.

Squash Bugs.

Can you give any remedy for the destruction of Stinking, or Squash Beetles? They are very thick on my melon vines. Last year they killed all my pumpkins.

My way is to turn up the vine, shake them onto the ground, make a hole in the ground, rake them in and bury them. It is a tedious job, and injures the vine some unless handled with care. I wish you could recommend a better one.—J. C., Atwater.

This question has been answered in these columns and we can only repeat: Use Paris Green on vines affected and protect young vines with hoops over which are stretched netting.

Fall Potatoes.

I wish information about raising a crop of fall potatoes in this valley. Kindly give method of raising, cultivation, etc. Can seed be used raised from Burbank variety planted in the spring and dug in July?—W. F. G. Lankershim.

See Mr. Lobingier's article on page 9 of last week's Cultivator. Seed grown this spring will be all right but be sure that it is well ripened.

Diseases of Animals.

Will you please tell me where I can procure a book on hog diseases, and cure for same? In fact, disease of stock of any kind. Would like to get hold of a good book that would be a guide for diseases of all kinds of stock.—J. M.

Write the Department of Agriculture, Bureau of Animal Industry, Washington, D. C., for "Diseases of the Horse" and "Diseases of Cattle." We do not think the Department has ever issued one on the hog. Indiana has, however, which may possibly be had by writing Indiana Department of Agriculture, Indianapolis, Ind., for "Diseases of the Hog."

Sweet Peas and Fertility.

Being a city bred woman with no knowledge of gardening, and a great longing for such knowledge, I accept the invitation extended by the Cultivator to subscribers. Hence this letter. I have read of ranchers planting peas in their orchards to enrich the soil by drawing nitrogen from the atmosphere. I should like to know if sweet peas have the same power. And will the soil where they have been grown be better for carnations than soil enriched only by stable manure?

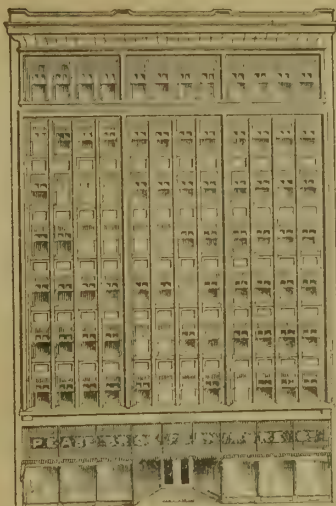
I have but a small plot for flowers and should like to know how to manage it to get the best results from different flowers. Do carnations do well on the same plot year after year? When is the proper season to fertilize callas, carnations and violets? And the best fertilizer?—L. C. S., Lemon Grove.

Probably the best fertilizer of all is well rotted stable manure. In a garden where its cost is a comparatively small matter you will probably find no superior to it. In large orchards where the question of fertilizers is serious, the use of green manuring crops have been a great relief and in any case have given greatly improved mechanical condition of the soil, and, as well have increased its fertility. Read Mr. Mills article on page 28, this issue.

Now your sweet peas may possibly not impoverish the soil as most other crops and even may add slightly to actual fertility if spaded under, tops and all, and allowed to decay, but don't for a moment think it would equal the application of good stable manure. However, be careful and not apply manure too heavily close around young plants. Beds which you will plant this fall or a few months hence, if not now occupied, can be covered with manure, then spaded in deeply. It will improve it greatly for later working. Also use fine manure for mulch during these warm, drying days.

Carnations will do well in same plot year after year if soil is kept in good condition by fertilizers. This can be done in a garden, but cannot always in field crops, hence "rotation" of crops.

Callas are resting now but a little later on fertilize and water heavily for winter bloom. Carnations and violets may be well mulched now and given heavier fertilizer later so it will be well worked into the soil before the stronger growing period.



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4 inch.....	5c "
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California Horticulturally

ABOUT "GREEN LADY BUGS."

AS USUAL, at this season we are in receipt of numerous complaints concerning damage being done to squash and melon vines and to fruit and flowers by "green ladybugs." It is unfortunate that so many people, with little sense of discernment, will insist in upon giving the name "lady-bug" to this greenish-yellow pest. The lady-bird, or as many call it the "lady-bug" is in all its phases the friend of the agriculturist, and never his enemy. It is true that there are exceptions to this, as to all rules, but the exception is so rare that we are justified in ignoring it. This green bug on the contrary is in all its phases injurious. The proper name of this pest is *Diabrotica*, and we have two species on this coast which are destructive: the *Diabrotica vittata*, a greenish-yellow beetle with two black stripes on the wingcovers, and which is the one especially destructive to squash, melons cucumbers, and other members of the same family. The other is somewhat larger, is greenish-yellow and has six black spots on each wing cover. This is the *Diabrotica soror*. This is a very serious pest to the fruit grower, as it burrows into ripe fruit; peaches, apricots and cherries, frequently being seriously injured by its depredations. It is also a very severe pest to many flowers, roses, chrysanthemums, and many others suffering greatly from it. It has a habit of burrowing into the heart of the blossom and destroying the petals and so rendering the flower useless.

These insects are very different in structure and color to ladybirds, and do not resemble them in any respect except in size, and misscalling them ladybirds leads many people to destroy real ladybirds under the impression that they are the injurious species, thus destroying their best friends because they have unfortunately been misnamed.

The striped cucumber beetle can best be checked by preventive means, as it is difficult to control it when the plants are grown and it is in full possession. Removing and destroying all vines as soon as the fruit has been gathered will destroy many of the larvae and eggs, which may still be on the roots. Young plants should be covered with a piece of mosquito netting stretched on a frame, two halves of an old barrel hoop crossed, answer the purpose as well as anything. This will keep out the insects until the plants are far enough along to resist them. The Paris green spray will destroy them if they are destructive later.

For the *Diabrotica soror*, the species which does damage to fruit and flowers, the only remedy is hand-picking. Paris green would be effective, but they appear at the time when such a remedy cannot be used, as the fruit is ripe and the flowers at their best. Jarring the plants and trees which are infested by them, in the early morning, while the insects are inactive, will cause them to drop, and if a sheet is held under the plant upon which they can fall, numbers may be captured and their depredations somewhat lessened.

FIGHTING PLANT LICE.

Among the worst pests of garden, farm and orchard, the aphids must be included as well toward the front of the list, if it does not head it. There is hardly any form of vegetation which is not attacked by this pest, in some

one of its protean forms. There are scores of different species, some of which confine themselves to one food plant and some of which, less fastidious but equally destructive, attack a whole class. Among those which do the greatest damage to the garden are the cabbage and melon aphids. At the present time great complaints are being made by the melon growers of Coachella and sections of Imperial valley, to the effect that their vines are being destroyed and their crops ruined by the pest. It is here that the ladybirds prove their usefulness to the agriculturist, for as soon as they become established among the aphids the latter soon begins to disappear, but much damage can be done before the ladybirds become established and at such times a remedy is needed. About the best thing that can be done for them is to spray the plants thoroughly with a kerosene emulsion, or with one pound of whale oil soap dissolved in eight gallons of water. As many of the aphids find lodgment on the under side of the leaves, it is necessary to have a sprayer with a nozzle that can be turned under.

END OF ARMY WORM.

The army worm season is now about over and all the damage has been done for the present. It is fortunate that these pests do not, as a rule, make their appearance in the same locations two seasons in succession and while they may possibly appear again, it is reasonably certain that they will not again trouble those sections where they were bad this year. The army worm is a cut worm, and passes its days underground coming out at night to feed, so that these insects may exist in enormous numbers unsuspected until they are driven out by shortage of food to seek new fields. It is then they assume the army habit and march forward in devastating hordes. Trapping them in trenches, with perpendicular sides which they cannot climb, drenching them with kerosene emulsion or spraying their feeding places with the Paris green have been found the most effective means of checking them.

REMEDY FOR CHERRY SLUGS.

The cherry slug has now appeared in destructive quantities and in some sections is doing much damage in destroying the foliage of the cherry trees. This slug is the larva of a saw fly, the *Ediocampa cerasi*, and is very easily handled, a spray of an ounce of hellebore in two gallons of water will destroy many of them, or the tree may be dusted with air-slaked lime, and even common road dust will check them. The insect is covered with a slime which is necessary for its life. If it is dusted this slime is dried up and the slug falls from the tree and perishes.

PEAR BLIGHT CONDITIONS.

Some cases of pear blight are reported from the pear sections of the upper country, but these are neither so numerous nor so severe as in former years, and it is evident that the work which has been done in the past against this most destructive of tree diseases, is accomplishing good results. The pear growers have been fully awakened to the necessity of doing something if they would save their trees and their crops and there are now none recalcitrant, all being willing to co-operate with the experts who have been training them for several years past. The blight will always be with us, but we have learned to fight it and are keeping it in check. Those who have pear orchards this year are getting both a good crop and good prices and have come to the conclusion that it pays to fight pear blight.

With the Citrus Growers

AN INTERESTING EXPERIMENT.

AN East Highlands orange grower hearing of a man planting his Moorpark apricot orchard to alfalfa as it bore no fruit and wanted to use the land and water for something that would bring in some money and to his surprise had abundant crops of apricots for a few years at least, thought he would try the experiment on his orange trees that are about ten years old. He sowed part of his orchard last fall and part of it in February. He now has a growth about a foot high that is in bloom. This is to be mowed, and left on the ground, the same to be done with the following crops. Part of the grove has hardpan near the surface and on this the growth is small and the trees have to be irrigated about once a week during the hot weather while the trees on the better soil require it about once in two weeks. The trees have a good color and are loaded with fruit, in fact, part of the orchard, that from which the fruit was picked early in the winter, will either have to be propped or some of the fruit will have to be thinned. The neighbors are shaking their heads at this new kind of treatment and the experimenter is not at all sure of his ground. He is fortunate in having a good supply of water from a well on the place and whenever he wants water it is simply a case of turning on the electricity. Should the experiment prove to be too expensive, it is his intention to plow the alfalfa under at once. He will plow it under in February in any event. This experiment is being watched with much interest and readers of the Cultivator will be able to get the exact facts at the end of the experiment.

EFFECT OF EARLY PICKING.

It is generally supposed that an orange tree will not require extra fertilizing when it is carrying a ripe crop and setting a new one. The supposition is that the ripe fruit makes no draught on the tree other than a certain amount of moisture that is required to keep the fruit in good condition. Some growers dispute this point, saying that the fruit grows after it ripens. This is without doubt true but it does not give any clue as to the actual effect of the holding over of the mature fruit, on the setting of the new crop. It is known that Valencias have a habit of bearing heavy and light crops during alternate years. The theory advanced is, that the trees must have a rest after carrying two crops at the same time through almost two years. The theory is right as is proven by the experience of apple growers all over the country, still there is a difference between the two cases. The apple crop matures and is gone before another comes on. When the Navel orange is left on the tree till after the new crop is set, it places it in the same class as the Valencia. The only sure evidence that we can get as to the results, is to make actual tests in the orchard. We recently observed a case where the fruit was picked early in the season from part of the trees and from the balance of the orchard the fruit was not picked till the first of June. The section that was picked early has a full crop and the late picked portion has about half as much fruit per tree. One or two instances do not make conclusive evidence, but they go toward making evidence.

FLORIDA ORANGES AND GRAPE-FRUIT.

It does not surprise F. S. & H. to learn that the Florida citrus fruit crop will be very light this year. The editor left that State April 10, and at that time but few of the trees were in bloom, more than a month late, and nothing to indicate that much bloom would appear later. The cause was a long protracted drouth, unbroken until May. In the interior of the State many fruit trees, very many orchards, in fact, were leafless in February from drouth, and many trees were doubtless dead, for a leafless citrus fruit tree is an unnatural condition and therefore indicates that it has been subjected to a severe drain upon its vitality. It is predicted that there cannot be more than half a crop this year, which spells disaster to the State, the fruit interest is so large there. Lovers of oranges and grapefruit will regret this shortage, for, without question, the Florida fruits named are the best that grow.

SUBIRRIGATION IN FLORIDA.

In the Florida Agriculturist we note that Florida orchardists are preparing to lay "porous terra cotta pipes" underground for subirrigation. This will recall to Californians many experiments in subirrigation about ten or fifteen years ago. Everyone more or less expensive and every one, we believe, a total failure.

Florida is now trying it, and apparently enthusiastically, for we note the quotation in the paper:

"The underground pipe method is the nearest approach to perfection possible. The labor of installing is simple, the pipes cover the field with perfect uniformity and are forever away from the reach of the plow, while every drop of the water is applied directly to the roots of tree and plant, and none of it escapes into the air. The supply tank need not be so high, saving much of the labor and cost of pumping. A few iron pipes convey the water to the opening heads of the underground pipes, a riser with a fifty-foot length of cheap rubber hose will feed the pipes for a breadth of a hundred feet, and a child can attend to the whole business of irrigation. The supply is steady and sufficient and the ground is always kept in the best possible condition, as is attested in many sections where the terra cotta pipes are employed in connection with artesian wells.

"For orange groves a line of pipe on each side of the row of trees, say at a distance of five or six feet, is sufficient. By this means the trees can be stimulated during the blooming and growing seasons and allowed to become dormant during the severer portion of the winter. It is a fair estimate to say that the best crops can be increased fifty per cent and the average crop doubled, the trees can be brought to uniform excellent condition and made to produce twice the amount of bearing wood each summer for next year's fruit. There is scarcely a limit to the improvement that can be brought about in the average grove by the judicious application of water and fertilizer. With this combination it is just as easy to have ten boxes per tree as eight, twenty as twelve."

Mistress—Have you any recommendation from your last place?

Applicant—Yes'm, I got three months off fer good behavior!

WHITE FLY AND OUR CLIMATE.

At the present time the all absorbing topic among orchardists, especially those in the citrus sections is the White Fly. We have been assured by an eminent authority in Washington that the White Fly would not live in the dry climate of California, and this reminds us of the story of a fellow who had been arrested for some minor offence. He was behind the bars and sent for an attorney to help him out. After explaining the case to the attorney, the latter exclaimed, "Why, they can't put you in jail for that!" "Yes," answered the prisoner, "but I am here." It is quite probable that, theoretically, the White Fly will not stand our glorious climate, but it is here. We have heard this story of climate in relation to every pest that has ever found lodgment among us. Our climate is of such beneficial character that it is good for all good things and bad for all bad ones, but when we rely too much on it, we always discover that it is also equally good for the bad. The fact is, that wherever the food plant of any insect will live there that insect will thrive. The climate that it had for the food plant is equally bad for the insect which attacks it, and vice versa.

PARASITES AND FUMIGATION.

I came across an item in a Monrovia paper stating that it would cost \$40,000 to fumigate the trees in that section. The writer then naively adds—

"Although the scutellista has saved the shade of pepper trees along the streets in many Southern California towns to the public, it has not done what was expected of it in the orange and lemon orchards. However, several new scale parasites are being experimented with, and it is hoped that they will do the work which the scutellista has failed to do."

What would have become of the parasites had the pepper trees been fumigated too? There has never yet been discovered a fumigation-proof parasite, one that would accommodat- ingly remain alive and go on with

its good work while its host was being poisoned with hydro-cyanic and acid gas; and it is dollars to dough-nuts that the writer will never live to see a "parasite which will do what the Scutellista has failed to do" so long as it is periodically poisoned off.

HE PROBABLY KNEW.

"Pa," asked little Willie Underthum, "what does a man's 'better half' mean?"

"Usually, my son," replied Mr. Underthum, "she means just what she says."

LOVED AND LOST.

"He loved and lost."
"But I thought he won her?"
"So he did; but three weeks after they were married she lost her fortune."



Gold Medal Citrus Trees

Are fully described in our treatise of Citrus Culture, which is a trifle the best thing of its kind ever published. Contains about 50,000 words and 100 illustrations telling about oranges and lemons from the seed bed to the bearing orchard. Price 25 cents. Remember we are the largest producers of Citrus Trees in the world and stand ready to serve you with the finest nursery stock that can be grown. Correspondence invited.

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Citrus Trees

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2-Year Navels 1-Year-Bud Valencias

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NATIONAL IRRIGATION CONGRESS.

Very general interest is being manifested in the Fifteenth Annual Irrigation Congress, which will be held at Sacramento, September 2, 1907. Every effort is being made to promote this Congress into one of the most important and valuable sessions ever held. The plans include an interstate exposition of irrigated lands and products of forestry. The Congress is composed of delegates from farmers' clubs, irrigation societies, chambers of commerce, and other organized commercial bodies. It meets annually. Its purpose is to promote and develop wise and beneficial national irrigation and forestry policies, and discuss practical details of irrigation and forestry. Special railway rates have been requested for passenger and freight transportation.

GROWING EUCALYPTUS.

Within the next decade we shall witness tens of thousands of acres of land in California planted to Eucalyptus for fuel and railroad ties. The trees require to be watered for the first three years, in the dry season, and cultivated regularly, after that it is agreed they will take care of themselves from what water they naturally receive.

The Santa Fe railway company is now engaged in planting in San Diego county a tract of 9000 acres. The first year 700 acres are to be planted, the second year 700 and so on until the entire tract is covered, taking about twelve years to complete the work.

The plants are seedlings, and they are set close

together, thus insuring straight and perfect trunks without branches. In five years, the little forest will be thinned by cutting out some of the trees for fence posts, leaving the others to grow into the timber. Fifteen years' growth will give a tree that will yield six ties. It is calculated, by this method of cultivation, that 700 acres will yield 2,500,000 ties at the end of fifteen years.

Eucalyptus trees four years old make good fence posts, and the limbs can be cut up for fire wood.

Every farmer in this State ought to have a double row of them around his land and along his cross fences. It is true they take some strength from the land, but they return in wood and fence posts, a good deal more than they take away from the land. Then too, they add very much to the beauty of a farm. In the Northern and Central portions of the State a good deal more attention is being given to the growing of Eucalyptus than in Southern California.

Southern California farmers ought to be taking notice of this fact.

IRRIGATION AND NATIONAL PROSPERITY.

The prosperity of the people of the United States depends more largely upon agricultural production than upon any other factor. It is perhaps not too much to say that our prosperity depends more upon this than upon all other factors. Agricultural production has increased steadily especially during the last few years when it has more than kept pace with the increase in population. Maintenance of the present prosperous conditions depends no doubt upon many elements, the relative value of which it would be difficult to determine, but no one will deny that among all of these, agriculture holds the place of first importance. Any movement, therefore, having for its object the maintenance of the steady increase in agricultural production is a movement in the direction of continued National prosperity. Such is the irrigation movement. The increase of agricultural production in the past has been largely due to extension of the cultivated area by the settlement of the West. Lands adapted to ordinary agriculture are no longer available in large areas, and therefore, increase of production in the future must depend upon a larger capacity per acre with irrigation an important element therein, and upon the extension of the area farmed by the irrigation of lands now arid or semi-arid.—Wednesday Press.

The National Irrigation Congress which meets in Sacramento in September will be the means of awakening added interest to the importance of this great subject in California. The Press well says: "The prosperity of the people of the United States depends more largely upon agriculture than any other factor."

TARDY RECOGNITION.

"By some unaccountable oversight the word "orange" has never appeared in a California State Fair premium list until this year," says the Sacramento Wednesday Press. "Tardy amends are made, however, in the list for 1907 by including liberal cash prizes, besides medals and diplomas, for all kinds of citrus fruits, from the succulent orange to the popular citron of commerce."

BULB GROWING.

Continued from First Page

ported from Europe and arrive in September when they can be planted or held till January and February for later flowering. There are hundreds of thousands of these imported every year by florists for "forcing." The kinds in most demand are Paper White and of the Daffodils or Trumpet Flowered, The Emperor, Golden Spur, Empress and Trumpet Major are the most popular. The Polyanthus type thrives exceedingly well in this climate but the Trumpet class seems to degenerate rather than hold its own, especially so with the double forms, which are worthless after the first year. The single forms as Emperor do very well carded and new stock procured. These bulbs for two or three years when they should be dis-succed much better if taken up each spring, after dying down and stored as directed for hardy bulbs, and again planted out in fall at different intervals to continue blooming period.

Nerine, or Spider Lily.

The Japanese variety, Licoris Radiata is among

the finest for hardy border. Blooms in August, without leaves which die down in May.

Ornithogalum—Star of Bethlehem.

A very popular bulb with culture same as Montbretia.

Oxalis.

Oxalis are fine bulbs for the border or hanging baskets thriving most anywhere. Should be planted deep, say three inches. Can be left for years without further care, or can be taken up and thinned out. Best time is May and June as they are mostly dormant at this time.

Richardia, "Calla Lily."

Our common Calla needs no description. It can be left for three years without injury, best to dig during June, thoroughly dry and transplant. The new Yellow Calla, "R. Elliotiana" with golden yellow flowers is admired by all, a summer grower should be dug in fall, stored as tender bulbs, and planted in spring, likes heat, water, and sun. It is a close relative of the old "Spotted Leaf Calla." R. Macullata.

Scilla, "Squill."

Beautiful spring blooming and hardy, belonging to the Gladiolus family, should be planted early in fall, about two inches deep and thrives best undisturbed.

Sparaxis, "African Harlequin Flower."

Dwarf Bulbous plants, flowering in rich and beautiful colorings of yellow, white, red, and violet. They are more compact and dwarfed than the Ixias. Same treatment as for Freesias.

Spiraea, "Japonica (Astilbe.)"

These arrive from Europe during November and December and can be planted at once or as desired should be kept somewhat damp all the time. They are a fine pot plant for Easter. They require lots of water and if planted in pots should be set in basin of water and kept constantly wet. They also thrive splendidly in the shady border or "fern bed." They will die down on approach of summer when if in pots, can be set away in a damp place covered with litter to keep from drying till ready to plant again.

Tigridia, "Peacock Flower."

"Shell Flower," a very hardy bulb thrives in most any soil, should be dug in fall and stored, hardy or half hardy. They bloom all summer and are among our best bulbs for flowers.

Tuberose.

An old favorite, perfectly hardy and blooms most all summer, and late in fall. Bulbs are best to be taken up during December or January and divided and reset or can be stored as hardy bulbs. Can keep for months in dry state, mostly grown now in Georgia and shipped to our coast in January. They succeed best in light soil with plenty of water. California grown bulbs are not as good as a rule as Georgia grown on account of poor attention in their growth.

Tulips.

An old-time favorite among the earliest flowering bulbs and are annually imported from Europe. Will not thrive over one year in California and new stock should be obtained. Avoid early varieties as these are practically useless. A new seed firm in Los Angeles claim to have a Tulip that is a perfect success in this climate throwing stems twelve to fourteen inches, discovered by them in their travels and dealings among florists on this coast.

Vallota Purpurea, "Scarborough Lily."

An evergreen bulb from Cape of Good Hope producing splendid spikes of scarlet blossoms (not purple.) Does finely as a pot plant (in transplanting the roots should not be disturbed) blooming and increasing. The bulbs succeed best and bloom more profusely if left undisturbed. Same culture as for Amaryllis.

Watsonia, "Bugle Lily."

A genus from Cape of Good Hope. Bulbs closely allied to Gladiolus introduced some thirty years ago. Never very popular in eastern States, but of late has become most popular in California. Especially a variety which has a pure white flower, grows five to eight feet high, blooming in early spring. Should be handled same as Gladiolus except is not possible to hold bulbs so long, should be planted in fall or bulbs will be apt to perish. A beautiful and rare plant.

D. M. MORRIS.

News of Country Life in the Golden West

Southern California Northern California

AGRICULTURE.

Grain threshers near Oxnard are putting out a large output.

One farmer in Moreno Valley has now harvested 12,000 acres of grain.

Quite a number at Hemet are taking the examinations for Forest Rangers.

Onion growers are strictly in it with the prices now prevailing in all markets.

Bad brush fire back of Elsinore last week covered an area of 2 1-2 by 15 miles.

A trainload of fifteen cars of cattle arrived at Brawley last week from Phoenix.

Hunters are rapidly putting down their little \$1.00 and securing permits for hunting.

Riverside county bee men report the honey crop far in excess of that of last year.

Riverside reports the grain crop of the county to be about 65 per cent of the average.

Large number of bee owners suffered complete loss of their stands by brush fire near Elsinore.

Brush fires back of Arlington Heights caused the destruction of a large amount of hay last week.

Street Warden Reed, of Riverside, is making an effort to abolish bill boards from the hillsides of that section.

One melon grower near Brawley reports the picking of \$700 worth of melons from a six-acre patch in two days.

Bee-keeping is growing more popular each year, and yet there are many in this country who could but do not keep bees.

A through express car from Imperial valley to Los Angeles is proving a boon to shippers of fruit, vegetables and cream.

The Colorado River is slowly, but surely going back to its regular level and no thought whatever remains of dangerous high water this year.

Johnson and Musser, seed men of Los Angeles, are buying seed in the neighborhood of Brawley, and will encourage its production in that section.

Fertilizer is being shipped into Hemet to be used on the winter crop of potatoes. Very satisfactory results were obtained by those ranchers who used it on the spring crop.

Consulting Engineer Grunsky has finished his examination of the Colorado River levees and the Imperial valley and it is understood that he will advise the Government aid in protecting that rich section.

A large planting of pine trees on the properties of the Brookings Lumber Co., in the San Bernardino mountains is said to be doing finely, and gives promise of a new crop of lumber some day not so far removed as one may imagine.

The Imperial Valley Press published El Centro complains bitterly that the Cultivator announced that Imperial received \$150,000 to \$200,000 for the cantaloupe crop which credit should have been given to the entire Imperial Valley. This we regret, but feel that the sensitiveness is uncalled for, for the only intention was to attract attention of the State to the immensely rich section so short a time ago a desert.

HORTICULTURE.

The hot weather pleases the lemon growers.

Redlands reports orange shipping practically finished.

Water in Lake Hemet is now reported to be 121 feet deep.

Land owners in Ventura county are putting up signs warning hunters to keep off.

The apricot crop was all marketed this season far in advance of any former season.

Oranges at Riverside now promise a normal yield and lemons are setting a heavy crop.

Brawley claims the honor of shipping the first full car of grapes from the Imperial valley.

Returns from oranges of the late picking all over Southern California promises to be great.

More than twice as many cars of cantaloupes have been iced and shipped at El Centro as last year same date.

Seventy thousand trees were set out in the San Bernardino forest reserve this last season and are claimed to be doing well.

Riverside Press is authority for the statement that one land owner in Moreno valley will plant a 10,000 acre orange grove.

The Escondido Mutual Water Co. proposes to foreclose liens on certain water users unless same are paid before August 1st.

Redlands Citrograph is urging prompt preparation of exhibits for the National Irrigation Congress to be held in Sacramento.

The Horticultural Commissioners of Orange county are making a campaign against the promiscuous growing of weeds on vacant lands and roadsides.

A meeting of the Tri-counties Reforestation Committee was held at Santa Ana July 1st, at which steps were taken to promote interest in forestry to a greater degree.

The various sections of the Imperial valley, at least the newspapers, are having a great scrap as to their merits. There is enough good in each to be placed without this everlasting pulling down.

A genuine hot wave all through Southern California of the week of the 4th made things exceedingly interesting for the residents of the desert valleys. One hundred and twenty degrees in the shade was reported from some sections.

The supply of water being developed in the Antelope valley is proving to be greater than at first anticipated, and will add greatly to the wealth of that section. Water has been found in some sections never before thought of as having water supply.

Van Winkle Brothers took off of 898 trees on eleven and one half acres a little over one hundred tons of apricots which sold at \$60 a ton. The expense of picking and hauling amounted to \$400. This nets them \$486.50 a acre. Mr. Van Winkle purchased this orchard a year ago for less than \$200 an acre. Will Martin took 20 1-2 tons of apricots off of 3 acres and sold them at \$60 a ton. About 700 tons of Hemet apricots have been canned. Not many were dried this year on account of the high prices.

AGRICULTURE.

The melon shipping season will soon open in the neighborhood of Fresno.

The Colbrook Creamery at Loleta, Humboldt county, is in financial straits.

Potato growing, which is proving profitable near Turlock, is attracting more attention.

A telephone line is being extended to the government reserve in Shasta and Trinity counties.

San Joaquin Valley Farmer published at Fresno ceases its publications for a few months.

Farmers near Redding are at law with the Northern Light and Power Co., over water rights.

The annual session of the Northern California Bee Association was held in Sacramento last week.

Hop prospects are anything but satisfactory, another slight drop in prices occurring last week.

Sutter county is shipping cattle to Portland, Oregon. One bunch of three carloads going in one day last week.

A hop buyer at Ukiah, is now offering only 5 1-2 cents and some claim they may drop to 4 or 4 1-2 cents.

The New Era Creamery near Newman will soon move into their new building at Gustine, Merced county.

Roseville not only produces roses, but now makes a show of some of the finest spuds grown in the State.

A row is going on the part of residents in the neighborhood of Tulare Lake owing to its proposed draining.

Clovis is scrapping over irrigating ditch right-of-way where neighbors have carried their case into the courts.

A new colonization scheme is about to be promoted near Firebaugh where 10,000 acres will be opened to settlement.

The story of growing the potato and tomato on the same vine is being reheated in some of our northern exchanges.

The Chico Record claims big development along dairy lines of that section. One creamery turned out 2600 pounds a day.

The barley field at the State Farm near Davis is yielding an average of thirty bushels per acre, which is considered an auspicious start for that farm.

Lake Tahoe shows the highest water in several years and some residents near it are threatening to blow out the dam constructed to retain the waters.

Break in the Kern River levee which did over \$1,000,000 damage to grain and other crops also put the Sunset Railway out of commission for several weeks.

State Forestry Department is investigating a field fire which occurred near Marysville caused by carelessness of section hands. About \$10,000 damage being caused.

Ex-Governor Pardee addressed an enthusiastic convention of farmers at Salinas last week on the problem of securing government aid on a great irrigation project for that valley.

Glanders amongst the horses of the Western Pacific Construction Camp is causing the Sutter county horse owners great uneasiness. Ten horses were recently killed badly affected with the disease.

HORTICULTURE.

Yuba City cannery is to begin operations about July 15th.

Large fruit farm of 250 acres is reported sold at Anderson.

Several field fires have occurred near Modesto in Stanislaus county.

Forty dollars per ton for prunes on the tree is reported at Vallejo.

A dam has just been completed across the Russian river near Healdsburg.

The first full carload of apples from Sutter county left Yuba City last week.

Turlock is claiming some of the finest and juiciest cantaloupes in the State.

Four hundred and nineteen cars is the output of oranges in the neighborhood of Exeter.

Work is being taken up on the formation of a new reclamation district in Sutter county.

A number of Southern Californians visited the Lincove orchard section near Exeter last week.

Corning claims a fine fruit crop this year, and that for all Tehama county this will be a banner year.

Anderson pear growers are urged to wake up and unite to secure the eradication of pear blight.

"Under the heel of the Japs" is the way the Porterville enterprise sizes up the fruit growers situation.

Luther Burbank has produced five entirely new varieties of thornless cacti at his grounds near Sebastopol.

The trouble over the Fair grounds at Fresno has been settled and the Agricultural Fair will be held this fall.

Another big reclamation district is to be formed on the lands comprised in a part of the Laguna district south of Fresno.

The Yolo Democrat is in hopes the State may be prevailed upon to assist in the matter of improving the Sacramento River.

Some property owners at Marysville are proving obstreperous in allowing the eradication of the white fly from their places.

An advertiser in the Corning New Era claims that "sulphur sown broadcast under prune trees will destroy the red spider."

The Guggenheim Co., of Fresno, has secured the large Seropian packing house which they will use in the coming raisin packing.

One packing company at Yuba City estimates that it will put out about 30,000 cases of green grapes and peaches this season.

There will be a civil service examination of candidates desiring positions of ranger in the Forest Service at Hot Springs July 23d and 24th.

The Board of Supervisors of Tulare county are being urged by citrus growers to take every possible step to prevent importation of the white fly.

Lodi fruit growers have organized a Lodi Fruit Growers' Association for the purpose of securing better returns for their tokays and other green fruits.

San Jose Chamber of Commerce is sending out advertising matter largely composed of descriptions and illustrations of Santa Clara valley's great seed farms.

PER
2 BUSHEL
SACK

\$1.90

PER
2 BUSHEL
SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by all largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Hazardous feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultry men who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis Worlds Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland.
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis and Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 505 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

Beef Scraps Raw Bone

GUARANTEED ANALYSIS:

Protein.....65%
Fat.....8%

Made of Cooked and Dried Livers, Lungs, Melts and Clean Scraps. No fertilizer ingredients in these Beef Scraps.

Pure, Clean Animal Matter Poultry Foods

WESTERN MEAT COMPANY SOUTH SAN FRANCISCO CALIFORNIA

GUARANTEED ANALYSIS:

Protein.....25%
Phosphates.....45%

Made of Clean Beef Bones, surplus fat removed. Cleanest Raw Bone on the Market.

Lincoln Avenue Poultry Yards

—Capt. Mitchell's S. C. White Leghorns—

To clear a few yards for young stock we will sell a limited number of extra choice breeders at half price until August 15th. They are all utility birds with conformations ranging from 150 to 250 eggs per year; prices from \$1.00 to \$3.00 each for hens and \$3.00 to \$25.00 for cocks. If you are interested come and see us or write.

CARL C. CURTIS, Owner

Altadena
Care

Lincoln Ave. and Ventura St., Pasadena, Cal.

Beef, Blood and Bone Will Make Your Hens Lay

This is not a medicine but a high grade nitrogenous food. Write for free booklet, "How to make Hens Lay." Our Poultry Foods are sold by all local dealers and manufactured solely by

The Pacific Guano and Fertilizer Co.

Also Pioneer Manufacturers of High Grade Indiana and Yolo Sts., San Francisco, Cal. Fertilizers. Write for our free booklet, "Farmer's Friend." Valuable to all farmers and ranchers.

Bemis Plymouth Rocks

Barred and White

Prizes Won at Alameda County Poultry Association Show, Oakland, 1907—22 Regular Prizes and 8 Silver Cups. Can furnish best birds and eggs at reasonable prices. No incubators lots furnished

Mrs. Florence E. Bemis, 1757 19th Ave., Oakland, Cal.

Special Sale of White Leghorns

Mitchell Stock 200 Yearling Hens at \$18 per dozen
100 2-Year-Old Hens at \$15 per dozen

Also some choice White Leghorn and Black Minorca Cockerels. These birds are all in good condition. Hens are from my breeding yards and must be sold to make room for my young stock. Write or call. Satisfaction guaranteed.

S. E. GREGG, 126 So. Adams St., Riverside, Cal.

Profit in the Poultry Yard

We solicit short articles of a practiced nature from the fancier and utility breeder, giving their experiences with poultry. All inquiries pertaining to feed, management, disease and its prevention, will be answered through these columns.

THE POULTRY HOUSE.

THE subject of houses next to location, is important. In our climate of the Pacific Coast it is not necessary to put so much money in houses as in the northern and eastern States, for here all that one needs is a house that will shed water and afford protection from the wind. Although we have had houses face the north with no ill effect we prefer any of the other directions, as it is necessary to have sunshine sometime during the day to keep them fresh.

It is our purpose to write only of a practical house, and not go into detail for a house, made simply to satisfy a fad or fancy of some one without considering the practical or financial side of it.

Open Front House.

We believe in the open front house for the climate of the Pacific Coast. Its advantages have been proven time and again. The single span (or shed) roof is the easiest to build. It gives the highest vertical front exposed to the sun's rays, which are reflected, drying the ground. It throws all the rain water to the rear, lessens the length of each trough and keeps the ground in front of house dry. If you live near the coast where fogs are frequent and where the trade winds are strong you can use the burlap front, or curtain. We recently had the pleasure of visiting a poultry ranch that had a half open front. We liked the idea, but believe the whole front open would have been just as good and less expensive to build.

A Hint For a Plan.

A good plan and size for a house, if you want a scratching shed in construction, is, 10 feet wide and 14 feet long, this by putting a partition through the center will give you a roosting room 7 feet by 10 feet and a scratch shed same size. Front of building should be 7½ feet high under eaves and 5½ feet under eaves at back. This gives you a better chance to clean without stooping or getting your head bumped when working.

Material.

Plain siding is good enough, but should be sufficiently tight to prevent draughts in house. The roof can be made of some kind of roofing paper.

We know of good and inexpensive houses that are made entirely of roofing paper. The house or frame is made first, then poultry netting is tacked over this and covered with roofing paper, tacked at corners. The wire simply to give it strength.

The Burlap Front.

A frame should be made size of end of house, hinged at top. This should be covered with burlap and should have hooks to fasten up to roof out of way when not in use. This curtain can be let down on cold and foggy nights. You will be surprised to find how much dampness it will keep out of your house; it seems to absorb all fog and keeps the house dry, and at the same time give you the fresh air desired.

The Scratch Shed.

The scratching shed for best re-

sults should have a board floor; this will keep the litter from becoming damp and will not have to be changed so often. What you will save in labor when cleaning and the difference in cost of straw for litter, will soon pay for floor. It can be built of any waste lumber and does not necessarily have to be tight.

Roosts, Nests, Etc.

In the roosting end of house arrange your dropping boards. They should be about 18 inches from the floor. Above these you can arrange your roosts which should be about four inches higher than the board and two and one-half to three inches broad. A good plan for roosts is to take two pieces of two by four scantling ten inches long; to these tack a piece of beaded ceiling, set this on dropping boards, don't nail as you will want to remove when cleaning. Under dropping boards you can arrange your nests to suit your convenience.

MODERN POULTRY CULTURE.

Our experiment stations and best students of poultry culture, working along lines of theory and also actual practical demonstration in the fowl yard, have presented many advanced ideas for our consideration and acceptance or rejection. Their analysis of foods gives us a wide range of selection in feeding materials and correct idea upon the balancing of rations from the materials within easy reach. Yet how many poultrymen who may take the time to read this article feel themselves competent to select, with confidence, the material best suited to the development of body growth, egg production or for fattening, as well as those most conducive to health and procreative vigor?

Get Advanced Ideas.

It means success or failure; a profitable business or unnecessary expense and loss. Every producer of eggs or meat, every breeder of fancy fowls for the exhibition room or breeding purposes should avail themselves of the advanced ideas obtainable at government expense. The value of milk, as a food for fowls according to government investigation, is way and beyond that which we have previously attributed to it. Oats for laying hens has never to my knowledge been considered a popular food, yet our professional brethren make the statement that for the ruling prices in our Eastern markets it is one of our most valuable and inexpensive foods. [Its use has often been urged by the Cultivator, especially for growing chicks.—Ed.] It is not my purpose to repeat or quote from the bulletins obtainable from the several stations for the asking, but to call the attention of the poultrymen to the value of the information. Eastern fanciers and breeders are more progressive in this respect than we of the West, for the obvious reason that they are more in touch with the workings of our scientific investigations and also closer to the greater activity in poultry culture, both fancy and commercial, of the United States.

It is my opinion that loose methods and inferior quarters and conditions not conducive to the best results, as well as an absence of thorough knowledge in the actual every day work in the fowl yard, is largely responsible for the very inferior qual-

Genasco Ready Roofing
stands for twenty-five years of
knowledge of natural asphalt
by the largest producers of
asphalt in the world.

Send for samples and Book 35
**THE BARBER ASPHALT
PAVING COMPANY**
largest producers of asphalt in the world
PHILADELPHIA
New York San Francisco Chicago

Silver's Clover Cutter

For Poultry



This machine will cut clover, alfalfa, straw, vegetable tops and similar material, green or dry, into 1/2 inch lengths, which makes it especially adapted to cutting feed for poultry. It is all iron and steel, consequently very durable. Length over all, 24 inches. Size of feed box, 18 inches long by 10 inches wide at rear end, by 8 inches at throat. Feed rollers are full width of cutting surface. Has 8-inch, 4-bladed, solid center, spirel knife, with adjustable cutter-bar, like a lawn mower. Capacity is a bushel of cut clover in 10 minutes or less. It is intended to be mounted on a bench or box to make it right height for operator.

PACIFIC IMPLEMENT COMPANY
General Agents
133-153 Kansas St., San Francisco
Arnott & Co.
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BARRED ROCKS

EXCLUSIVELY

Send for Sixteen-Page 1906 Catalogue
H. R. CAMPBELL
BOX O PETALUMA, CAL.

Spargur's Trap-Nested White Leghorns

Cockerels for sale from my best hens. A few Light Brahma Hens and Roosters for sale. Eggs from I. R. Ducks and Blue Andalusians at \$1.00 per setting, \$5.00 per hundred.

H. G. Spargur, Soquel, Cal.

Baldwin's White Leghorns

Egg prices cut in two for May and June. Fine youngsters at reasonable rates. Good older stock cheap to make room. Send for latest price list.

Frank E. Baldwin

46 Washington Ave. - San Jose, Cal

Ross & Tate, Altadena, California

Breeders and Importers of

Buff, Black, and White Orpingtons

Have for sale Trios, Cockerels and Pullets.
Eggs for hatching, settings or hundreds.
Write or call.

Two Blocks North, One Block East Altadena Post Office

GEORGE W. POPPELWELL

Successor to C. H. Robbins

Breeder of White Leghorns, Black Minorcas and Barred Plymouth Rocks. Eggs for hatching, \$2 to \$5 per setting. Single birds, trios and breeding pens a specialty.

Yards at Ranch (10) Phone Main 1583
943 W. Fremont St., W. Stockton, Cal.

MY EXHIBIT OF

WHITE, BUFF AND PARTRIDGE Wyandottes

Won 26 Ribbons and Special Prizes at the Poultry Breeders' Show, 1907
R. D. Box D87 L. E. BERKEY, Fullerton, Cal.

WHITE WYANDOTTES Hubbard Stock heavy-laying prize-winning strain. Commencing June 1st, eggs, \$5.00 per 100; baby chicks, \$2.25 doz. Cannon Poultry Co., 2851 Morgan Ave., Los Angeles Take Slauson Ave. car to 29th St., walk 1 block west

SHADE'S RHODE ISLAND REDS
The World's best layers.
Write for Folder.

J. W. Shade San Bernardino, Cal.
WHITE, BUFF COLUMBIAN WYANDOTTES
And Golden Sebright Bantams, prize winners
Stock and Eggs in season
M. E. Dillingham, Box 67 San Gabriel, Cal

ity of poultry produced and the limited demand along fancy lines for thoroughly and scientifically-bred fowls.

California Has Them.

Why will Mr. A send East for a male, a pair, trio or pen of fowls at prices way beyond what the same quality of birds can be purchased for right here in California and I will suggest the reason. Pacific Coast breeders have not asserted themselves; have not supported and made available the several means of publicity at their command. A fancy fowl of a stated quality ought to command as much in California as in the East. Many of you have paid Eastern breeders, even English breeders, several times what can command there for their best offspring; this condition is not a healthy one. Ways and means, every one available, to correct this condition and create an active demand for our California product at profitable prices. Organization, publicity, even in Eastern journals, will prove an important aid to reaching our object. There is an urgent need of more poultry exhibitions. More enthusiasm in our poultry press. Let the poultry industry assert itself and bring prominently before the Pacific Coast its importance. The advance in price of other meats controlled by trusts and monopolies should surely prove a source of encouragement to the producer of poultry and eggs.

Looking conditions squarely in the face, was there ever a time in the history of poultry culture when a brighter future was assured and a more active demand anticipated. All that is needed is the employment of correct methods of production, advanced and progressive business relations with the consumer, placing at his disposal an attractive and well finished product. Where do the thousands and thousands of tons of half-fed poultry produced by the numerous farms of the Middle West, by people ignorant of the possibilities of poultry culture, go to? A large per cent of it goes to such firms as Armour & Co., Swift & Co. What do they do with them? They are sorted; the most desirable are placed in pens and intelligently fed on scientifically-balanced foods for the production of a tender, fine flavored finished fowl. This class of poultry finds its way to the tables of aristocracy of two continents. If these large firms can afford to pay the producer also the cost of fattening and transportation even to England and make a profit, what should you be able to command for a high class product for which the public is not only ready but willing to pay profitable prices to secure? A high class product is always in demand.

It's the poor quality article that goes begging for a purchaser. These and many other conditions largely due to improper methods of production, marketing, etc., as well as not enough thought and brains put into the business are the cause of the present conditions and prices to the producer of poultry and eggs on the coast.—J. W. Whitney, Long Beach.

A teaspoonful of sulphur in a quart of soft food given the hens on dry days, is one of the best medicines where disease appears, and it is excellent when burned in poultry houses, as the fumes of burning sulphur will not only destroy the lice, but also the germs of many diseases. Do not add it to the food in damp weather. As it is cheap, a supply should be kept constantly on hand.

Molting Time

is the time to provide for eggs when they will be scarce and high. Don't let your hens molt for months. Don't let them get completely run down and all out of condition. This they will certainly do unless you use care and intelligence in feeding them through this trying season.

West Coast Egg Food

is a highly nitrogenous Poultry Food, rich in protein, composed of the finest grains, seeds, roots, salt, iron, charcoal, condiments, shells, oil cake, bone, meat and dried blood to keep the poultry in good health, build up a strong and vigorous system, make the hen molt early and convert the surplus aliment into eggs. It is a full, scientifically balanced ration containing no filler but every ounce is pure food. Many so-called "Poultry Foods" and "Egg Makers" are nothing but stimulants and not advisable to be fed regularly. If your poultry are already in a run down condition,

West Coast Poultry Tonic

is what they need for a short time; that is just what its name implies. But it is very easy to mix a lot of ingredients, much of it a little better than refuse and call it egg food. And even if good foods are mixed it does not make an egg food unless the ingredients are adapted to the requirements. Some mixers of "egg food" seem to think that it is the shell alone that is to be made, forgetting that a hen has no use for the shell until she has made the egg.

West Coast Egg Food

is made of just such first-class materials and in such proportions as has been proven by long practical experience to serve the purpose of assisting the hen in her molting and then in producing eggs, and at the same time to build up her system and keep her in the best of health. The hens like it, they eat it, there is no waste, hence it is the cheapest Egg Food on the market.

West Coast Egg Food

can be fed either as a mash or as dry feed, though we recommend the latter because it is more natural and, we think, the better way. Don't ask Biddy to fill the egg basket without giving her good care and providing her with proper material for the purpose. Feed her West Coast Egg Food. For sale by many dealers. If yours doesn't keep it, or will not get it for you, send direct to us.

Manufactured by the

West Coast Stock Food Co.

818 San Fernando St. (Through to Alameda) Los Angeles, Cal.

Excelsior Egg Food

By scientific and careful experiments we have been able to compound a ration in our Excelsior Egg Food to produce the desired results, that is

More Eggs

It pays to give the hen a highly nutritious balanced Egg Food Mash, mixed in proportion to insure the results. Use it the year around, and you will have healthy hens, and more eggs when they are high-priced, as well as when they are cheap.

If your dealer doesn't handle it telephone or write us.
Price 90-lb. sack \$2.15; 25-lb. sack 75c.

Del Monte Milling Co.

242 Central Ave.

Los Angeles, Cal.

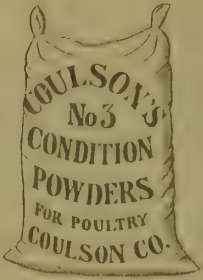


THE WHITE WYANDOTTES THAT WIN AND LAY
\$15.00 and Up Per Dozen

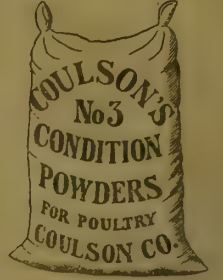
Lakenvelders, per pair, \$8.00; trio, \$10.00.
Mammoth Bronze Turkeys Reasonable.

Mrs. C. D. Hubbard, Box 282, San Fernando, Cal.

When writing advertisers, mention Cultivator.



Coulson's No. 3



Condition Powder For Poultry

If you are not already using Coulson's No. 3 Condition Powder, we would suggest that now is the time of year when your hens most need a tonic, to get them into condition after a heavy laying season.

If you neglect them now, and they go through the molt in poor condition, it is likely to take them a long time to start laying again, with consequent loss to your pocket.

We Claim Coulson's No. 3 Condition Powder

will put the flock in good, vigorous condition, not only enabling them to withstand any possible infection or disease, but enabling them to go through the molt rapidly, and to commence laying again before the cold weather sets in.

We practice what we preach, by giving our own hens a little of Coulson's No. 3 Condition Powder three times a week, and although they are now beginning to molt heavily, their combs are as bright and red as at the beginning of the season.

You will find that it does the same with yours if you give it a fair trial. It will not only do this, but will enable the hens to digest a much larger proportion of their food and thus save your feed bill considerably.

Therefore, if you wish to make money this fall and winter, inquire right now at your dealers for Coulson's No. 3 Condition Powder, and see that he keeps a stock so that you have it when you want it.

Where the local dealer does not keep it, we will make you a SPECIAL OFFER to deliver it freight prepaid to any Railroad Station in California, at the following Prices:

10-lb. Package, \$1.50; 25-lb. Package, \$3.25; 50-lb. Package, \$6.00; 100-lb. Package, \$11.00

Prices prepaid to R. R. Stations in Oregon, Washington or Nevada will be: \$1.75, \$3.50, \$6.40, \$11.50 respectively.

GET SOME NOW and insure yourself lots of eggs when prices are high.

Manufactured by

**Coulson Poultry and
Stock Food Company**

Germain Seed Co., Los Angeles,
Distributing Agents for Southern California

Petaluma, California

Bees and Their Care

COLONIZING THE NEW SWARM.

"JOHN-NEE!" called a woman with a strident voice to her son across the yard, "you go up into the loft and git me one of them bee hives—git it right away! These bees act as if they were going to swarm. They are just loafing around and doing nothing and the top story is jam full of the pesky things."

She was in the bee-yard with her smoker, whither she had gone with me, says a writer in Farm, Stock and Home, and had just peeked under the cover of one of the hives, when her voice rang out with a suddenness that made me jump. As the air continued to vibrate with the metallic echoes of her voice, I wondered how long her bees would stand it. It seemed to me that the very covers of the hives fairly rattled with the energy of that voice. My own bees would not have stood it a minute, and I backed away in fear to the partial shelter of a lilac bush. The wisdom of my action was soon apparent, for as she opened her mouth to call some further directions to her son, a bee—of whom I fully approved—hit her a dab right in the mouth. But she did not mind it much and was soon very busy "driving a swarm."

I had never met the woman before, but had been passing the place which was new to me. As our horses were tired and in need of refreshment we also rested. I had seen a few hives of bees in the yard, so had asked her permission to go out where they were and she went also.

I am a great lover of yellow bees, and whenever I had a chance I was looking out for a strain prettier and yellower than my own, but I never found them. The pure yellow is not an especial mark of pure breeding among the Italian bees. There is a leather colored Italian much advertised, and three or four ringed Italians that may be just as pure. The mark of pure breeding is that each bee shall be like all the others in the hive. The "tested queen" that one sees offered for sale is one whose brood hatches out all alike. When a pure bred queen meets a hybrid or a black drone, of course her brood cannot be pure-bred, but will have all sorts of markings, generally shown in varying numbers of rings around the body. The queen never meets the drone but once, so if she be purely matched she is mated for her lifetime. A queen being a fully developed bee often lives 4 or 5 years and does good work. This is the reason that we are willing to pay a dollar and more for a tested queen.

My hobby has been the yellow bee. I not only wanted her covered thickly with yellow rings from her belt to her stinger, but I wanted all the intermediate space covered with yellow down, so my bees in flight looked like rays of sunshine. This taste in bees kept me on the lookout for yellow bees, and took me into all the bee yards I came across, besides hunting over all the advertisements of queens. Clean and Bright.

I was quite curious to see what my new friend of the metallic voice was going to do with the loafing bees. I soon found out. The hive brought her was a very dusty affair, but she brushed it thoroughly, then washed it inside with cold water in which salt had been dissolved. She placed this hive beside the "loafers." Then going into the house she brought out

an armful of frames to fit the hive. Some of them had bright, clean combs in them, and some had mere strips of foundation.

These she placed in the cleansed hive and covered it. Then she blew a few whiffs of smoke into the entrance of the hive of loafers—not much smoke, just enough to alarm the guards and let them know that their master was about. She then pried up the super or top-story without taking off the cover, and set it on a blank super at a little distance. This left exposed a hive body just boiling over with bees and honey. The two hive bodies being just alike, she put the clean one right on this full hive, and as I saw the double hive stand there I wondered "what next?" She picked up a little stick about the size of a chair rung and began to tap on the lower hive. She went all around it, tapping on every side. She kept this up for some five minutes, then took a peep under the cover. I saw to my astonishment that the tapping on the lower hive had driven the bees up into the upper hive. She shut down the cover hastily, gave a few more little taps "to keep the bees from getting down stairs again" she said, and quickly lifted the top story back into its bottom board. I could see a lot of bees had been left in the full hive, but not one-tenth of the whole number. She covered it up and carried it to a distant part of the yard. "I don't wish the bees to find their old home," she explained. "I want to get all the bees with the new swarm I have just made. The ones that staid by the combs are the very youngest bees in the hive and are enough to keep the brood warm this weather," for it was July.

Then she moved the new swarm onto the old stand, got the super full of bees that she had first removed, and then to all intents the hive looked just as it did when we first entered the bee yard. "Does that always work?" I asked. "Do they never swarm out and go off?" "Never," said she, "if you catch them just at the right time. Sometimes when I drive them too soon they don't behave well, but it is better than to lose as many swarms as I do some years."

Lively Enough.

My new friend then took her smoker, a turkey wing and a strong, thick-bladed knife, and we went over to the hive that she had placed in another and distant part of the yard. No bees were flying about the hive and none were in sight at the entrance. "It looks dead," I said, thinking of the populous colony it had so lately been. "They will be lively enough in a week," answered she. "Just wait until that brood has time to hatch and there will be another swarm or two coming out. But I'll prevent that," lifting off the cover with a bang. She smoked the bees a little more and then lifted out the frames one at a time and carefully looked them all over for queen cells. And she found them, too; more than a dozen sealed queen cells that looked like peanuts, both in color, shape and corrugations. All of these were cut out and thrown away excepting one fine one. "There," said she, "now you will stay where you can do the most good." She had used the turkey wing to brush off the bees when they were clustered so thickly as to hide the queen cells.

"How do you know the old queen was with the new swarm?" I asked

The Angle of a Hoe



Grasp a Keen Kutter Hoe as you would in the field—better yet, put one to actual service, and see how well it fits its job. The angle of the blade is just right. If you strike at a weed, you are sure to cut it—if you "hill" a plant, it carries a full load of earth each stroke and does it all in the easiest position you can assume.

KEEN KUTTER

hand tools for the farm—Forks, Hoes, Rakes, Scythes, etc., are fitted by model and temper for great service and long wear.

Keen Kutter bench tools are the best to be had. The list includes Planes, Saws, Axes, Hatchets, Hammers, Adzes, Augers, Draw-knives, Chisels, Gouges, Bits, Braces, Gimlets, Squares, Bevels, Files, etc., besides every possible tool and cutlery for the household. Look for the trade-mark—it guarantees quality. If not with your dealer, write us.

"The Recollection of Quality Remains Long After the Price is Forgotten." E. C. Simmons.

Trademark Registered.

SIMMONS HARDWARE CO. (Inc.), St. Louis and New York, U. S. A.



Too Much Water



OW many times have you seen your fields flooded with moisture after a heavy rain, to the ruination of your crops?

The loss of crops by flooding is a thing unknown on irrigated lands, because where irrigation is practiced drainage is perfect, and all the excess water which falls is promptly carried off where it will do no harm. The irrigation ditches act as drainage ditches in case of overflow.

On the great irrigated tract of the Canadian Pacific Railway in Sunny Southern Alberta is to be found some of the richest land on the American continent, where almost any kind of grain and root crops can be raised.

Alfalfa thrives, and with the natural conditions and constant water supply, which makes Southern Alberta a perfect live stock raising country, the farmer is assured of reaping large and certain profits from the sale of his cattle, hogs and sheep.

The native grasses that grow on the plains of Alberta furnish fine feed during the summer months, and the alfalfa can be depended upon to bring the live stock through the winter in fine condition.

Sugar beet raising is one of the most profitable industries in Southern Alberta, under irrigation. Larger crops of beets can be raised here than in most of the states, and a better market is right at the door of the farmer. Beets bring \$5 per ton. The price is guaranteed, and the demand constant, so that the farmer takes no chances of having a drug on his hands when his crop is harvested.

Everyone who studies farming conditions knows that Southern Alberta is the greatest wheat raising country on earth, and oats and other cereal crops thrive and produce enormous crops.

Poultry of all kinds does well in Southern Alberta, and a good market is always ready for the lucky man who has chickens, turkeys, ducks, geese or other fowls to offer.

Quit trying to make high-priced land in the Central or Eastern States pay, and come out to Alberta where you can get five to ten acres for every one you now own, which will produce from three to five times as much under irrigation as your acres produce.

Farming conditions are perfect in Alberta, good markets prevail, school facilities are of the best, and neighbors are Americans. Then why not come to a place where money-making is easy, and where you can be out of debt, independent of the world?

Write and let us tell you how to see Alberta at very small cost. Let us tell you how to get a farm that will make you and your children rich.

CANADIAN PACIFIC IRRIGATION COLONIZATION CO., Ltd.

60 NINTH AVE., WEST

11

CALGARY, ALBERTA, CANADA.



Cheapest Arsenate of Lead

On the Market

"ORTHO" BRAND for control of Codling Moth and other fruit and leaf eating insects. Packed in 40 pound tins. Price 12 cents a pound. Every Can Bears a Guarantee Against Burning Foliage Address

Watsonville Spray Chemical Co.

Manufacturers

Watsonville, Cal.

When writing advertisers, mention Cultivator.

"O, that's easy," said she. "The queen is always the first one to scud out of danger and a good body guard always go with her to protect her as far as possible. If I had left the new hive there a minute she would have been down with her brood again. That was why I hurried it off the brood frames, before she got back."

We walked back before I left and looked over the newly made colony. for they really seemed to have settled down to housekeeping. Two hours later when I came away, both honey and pollen were coming into that hive at a lively rate.

This woman seemed to understand her business and made money out of her dozen or more colonies of bees, but she was the only loud-voiced, abrupt, noisy bee-keeper I ever saw. —Farm, Stock and Home.

LINERS

Liner Advertising
Advertisements in Liner Column 1 1/4 cents per word. Eight words to a line. No advertisement taken for less than 25 cents.

EGGS FOR HATCHING.

AT REDUCED PRICES BALANCE OF season from my prize winning Barred Rocks; when all special and 18 regular prizes on Barred Rocks at late Los Angeles show. Eggs from best pens, \$2.50 per 15; \$10 per 100. Can furnish any quantity. Also offer extra bargains in breeding stock. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

McKINLEY POULTRY FARM-BREEDERS of Blue and White Wyandottes. Member American Buff Wyandotte Club. Golden Seabright and Pyle Game Bantams. Eggs \$3.00 and \$1.00 per 15. Take San Pedro Interurban car to McKinley, first house north. BOX 11, R. F. D., Gardena, Cal.

A. C. WHITE LEGHORN EGGS FROM THE brood-to-lay Blanchard strain. Large birds. \$1.00 for 15; \$4.00 per 100; Free city delivery. C. M. GIBBS, R. F. D. No. 4, Los Angeles, Cal. Phone W. 591

POULTRY.

INDIAN RUNNER DUCKS-EGGS AND stock for sale. Eggs, \$1.00 per 15; \$5.00 per 100; stock, \$1.00 up. Black Langshan prize pen, \$2.00 per 15. CLYDE J. MOSS, successor to F. M. Bender, Corona, California.

MACHINERY.

FOR SALE-THE EQUAL OF NEW 30- H. P. White & Middleton gasoline engine at a bargain. 943 No. Main St., Los Angeles.

FOR SALE-CHEAP FOR CASH-3-H. P. Hercules Gas engine in perfect order; as good as new. 943 N. MAIN ST., Los Angeles.

FOR SALE-AT A SNAP IN 25-H. P. FAIR- banks-Morse distillate engine in A1 shape. 943 N. MAIN ST., Los Angeles.

FARM LAND.

FOR SALE-TWENTY, THIRTY OR FOR- ty acres fine farming land, 1 1/4 miles from Santa Ana cars; fenced. Price \$150 per acre. Adjoining lands sold from \$250 to \$300 per acre. J. L. TUMMOND, Buena Park, Cal.

Land that never fails to yield profitable re- sults, because only \$12 to \$25 an acre, with water forever 50c an acre per annum. Grain, alfalfa, sugar beets. Good markets and climate. Fare rebated. W. R. GILSON, 411 S. Main St., Los Angeles.

JUBILEE POULTRY FARM. 80 ACRES, well improved, 2000 healthy chickens, horses, cow, implements, vehicles; 6 large incubators and brooders; pumping plant, \$7500 takes crops and all; a snap; easy terms. WM. MANTZ, Santa Maria, Cal.

TREES.

3000 GOOD, THIRTY WASHINGTON NAV- EL and Valencia late trees; 1 and 2 years old; at the right price. Free of scale and smut. C. D. HUBBARD, San Fernando, Cal.

LADDERS.

"CHAMPION ORCHARD LADDERS" ARE the very best. Selected spruce. Malleable iron heads, painted. Light and strong. Many of the largest dealers handle them. Sizes, 6 to 20 feet. Price, 27 cents per foot. F. O. E. San Jose. Write for full information and description. H. E. EDMUNDS & SON, 8 Story Road, San Jose, Cal.

HORSES.

STALLION FOR SALE-A PERFECTLY turned trotting-bred horse, by McNear, he by McKinney, dam Venturers by Venture; 16 hands high, over 1100 lbs. weight, 5 years old; kind, level-headed and a picture; mahogany bay. Don't miss this chance. W. E. YEAW, Washington, Nevada Co., Cal.

COWS AND PIGS.

FOR SALE-ONE REGISTERED JERSEY Bull; three registered Jersey cows; several heifers, eligible to registry, and Poland China Boars from two to six months old. Address, J. L. TUMMOND, Buena Park, Cal.

GOATS.

FOR SALE-MALE KID, SIX WEEKS OLD. Imported Swiss (Toggenburg) sire. \$5.00. Address, 130 CAREY ST., Pasadena, Cal.

MISCELLANEOUS.

FOR SALE-SANTA MARIA DAIRY route, with or without cows; plenty of alfalfa available. No opposition. L. L. LANGLOIS, Santa Maria, Cal.

The Produce Markets

Los Angeles Markets

LOS ANGELES, July 10, 1907.

Butter.

Creamery extra.....55@57 1/2
Creamery first.....62 1/2
Dairy.....21

Cheese.

Cal. Young America, per lb.....19
Hand.....20
California Anchor.....18
Cal 3-lb. hand.....20
Northern, fresh.....14 1/2
Domestic Swiss.....23
Imported Swiss.....30 1/2

Eggs and Poultry.

The prices given are those of the commission man to the retailer.

Eggs, local candled.....21
Eggs, case count.....20

The following are average prices which dealers pay to producers for live weight.

Hens, per lb.....12
Young roosters, per lb.....15
Fryers.....18
Broilers, per lb.....18
Old Roosters.....7
Turkeys.....17
Geese.....12
Ducks.....10
Squabs per doz.....150@175

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs, from 175 to 200 lbs.....7 1/2
Prime steers.....4 1/4@4 1/2
Heifers.....3 1/4@4
Calves, per lb.....4 1/2@5
Sheep, ewes, per head.....4.75@5.25
Lambs, per head.....4.00@4.50
Wethers.....6.50

Potatoes.

New, Early Rose.....2.00@2.75
New, white.....2.00

Onions.

Silverskins, per ctl.....3.50
Imperial, per sack.....4.00
Garlic.....12

Vegetables.

Asparagus lb.....12 1/2
Artichokes.....65@80
Beets per doz.....30@40
Bell Peppers green lb.....20
Beans, wax.....1
Beans, green.....1
Cabbage, sack.....50@75
Celery, Hothouse, per doz.....1.50
Chili peppers green.....12 1/2
Cucumbers, per 20 lb. box.....1.00@1.20
Corn per bx.....60
Cauliflower.....1.25
Carrots per doz.....30@40
Egg Plant per lb.....15
Green Onions, doz bunches.....10@30
Lettuce, per crate.....50@75
Peas, sugar, per lb.....4@6
Okra, per lb.....20
Rhubarb per box.....1.65@1.75
Radishes per doz.....15@20
Spinach, per doz.....10@15
Summer squash crate.....25@40
Tomatoes per basket.....50@150
Turnips, doz bunches.....40
Water Cress per hundred.....40

Citrus Fruits.

Valencias.....1.50@2.75
Navels.....1.25@2.10
Grapefruit Seedless.....2.00@2.50
Grapefruit Seedlings.....1.25@1.35
Seedlings.....1.25@1.50
Lemons, fancy.....2.00
Lemons, choice.....1.25@1.50
Tangerines, halves.....1.50@1.75

Fresh Fruits.

Apples, Red Astrachans, box.....90@1.10
Peaches.....1.75@2.00
Crab Apples.....1.00@1.25
Apricots.....1.25@1.50
Blackberries.....1.25@1.50
Currants per 4 bskt crate.....1.10@1.25
Cherries, loose.....15
Cantaloupes, crates.....2.00@2.50
Figs, black, per lb.....6@8
Figs, white.....10
Grapes, per 4 bskt crate.....1.30@1.75
Gooseberries per lb.....8
Logans.....5@6
Loquats.....2 1/2@3
Peaches, per box.....1.35@1.50
Plums.....1.00@1.40
Raspberries.....5@7
Strawberries.....2@3 1/2
Watermelons, per lb.....2@3

Dried Fruits.

Evap. Apples, fancy per lb.....8 1/2@10
Apricots.....20@22
Peaches.....12 1/2
Pears.....13

Beans, Dried

Limas per ctl.....5.30
Pink No. 1.....3.00
Pink Washington.....2.90
Small White.....3.20
Black Eyes.....5.50@6.00
Garvanzas.....5.75@6.00
Lentils.....12 1/4@15

Honey

The prices we give are those at which the jobber sells to the grocer in small lots. The producer should take from this one cent a pound commission and freight to Los Angeles, and there will remain the net returns to him.

Extracted White.....6
Light Amber.....5@5 1/2
Comb, water white, 1-lb. fms.....12@15
Light Amber.....10@12

Nuts.

Almonds per lb.....19@25
Peanuts, Virginia.....9
Peanuts California.....6@7
Walnuts, No. 1 S. S.....14@15

Hay.

Barley, No. 1.....14.50@16.00
Barley, No. 2.....11@12
Alfalfa Northern per ton.....13.00
Alfalfa new.....12.50@13.00
Plain oat No. 1 new.....13@14
Wheat No. 1.....12@14

Grain.

Purchasing prices f. o. b., Los Angeles are:

Wheat, new, per cwt.....1.70@1.75
Wheat, Sonora.....1.52 1/2@1.57 1/2
Barley.....1.17 1/2@1.22 1/2
Corn, Eastern, sacked.....1.50

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn.....1.65
Shorts.....1.45
Bran.....1.30
Egyptian corn.....1.65
Rolled Barley.....1.40
Feed meal.....1.70
Kaffir Corn.....1.65

San Francisco Markets

SAN FRANCISCO, July 9, 1907.

Butter.

California ex per lb.....26 1/2
California firsts.....24 1/2
California seconds.....23 1/2
Packing stock.....22 1/2

Cheese.

California, Young America, fy.....13
California, flats, fy.....14
Eastern fancy.....18 1/2

Eggs and Poultry.

Fresh ranch eggs.....24 1/2
Eggs, first, per doz.....23
Eggs, seconds, per doz.....19 1/2
Eggs, thirds.....19
Hens, per doz.....5.00@5.50
Hens large.....5.50@6.00
Young Roosters.....6.50@7.00
Old Roosters.....4.00@4.50
Fryers, per doz.....4.50@5.50
Broilers, per doz.....2.50@3.50
Ducks, young.....4.00@5.00
Geese, per pair.....1.50@2.00
Turkeys, per lb.....16@19
Pigeons.....1.25@1.50

Live Stock.

Steers No. 1.....7 1/2@8
No. 1 Cows and Heifers.....6 1/2@7
Hogs, 80 to 200 lbs.....7 1/2
Hogs 200 to 300 lbs.....7
Calves, per lb.....5
Lambs, yearlings.....6@6 1/2
Wethers, No. 1.....5 1/2
Ewes, No. 1.....5

Potatoes

Southern stock.....2.50@2.85
Rivera Burbanks.....2.50@2.80
Rivera whites.....2.50@3.00
Early Rose.....2.50

Vegetables.

Asparagus.....7@12 1/2
Cucumbers per box.....75@1.00
Corn per doz.....25@40
Chili peppers, green, lb.....6@7
Green peas per lb.....4 1/2@5
Squash per box.....1.00@1.50
Peppers Green Bell.....20@30
Rhubarb, per box.....75@1.00
Tomatoes, California.....50@1.00
String Beans.....2@4
Wax Beans.....2@3

Onions.

Onions, new Reds.....3.25
Onions, Br Australia, per ctl 4.50@4.75
Onions, new Yellow.....3.25

Citrus Fruits.

Valencias.....2.00@4.00
Seedlings.....1.25@1.75
Grapefruit, seedless.....1.75@3.00
Limes.....4.50@5.00

Fresh Fruits.

Apples, per box.....1.00@1.75
Apples, new, per small box.....35@50
Apples, new, per large box.....75@1.50
Crab Apples.....75@1.25
Apricots, per box.....1.50@1.75
Apricots, per lb.....5@7
Blackberries, per chest.....3.00@5.00
Currants, per chest.....9.00
Cherries, per lb.....12 1/2

Figs, 1 layer.....50@60
Figs, two layers.....75@1.50
Gooseberries per lb.....8@10
Grapes, per crate.....1.75
Logans, per chest.....3.00@6.50
Melons, per crate.....1.50@2.00
Plums, per box.....75@1.25
Peaches per box.....1.00@1.25
Pears.....1.25@1.75
Raspberries per chest.....3.50@7.00
Strawberries per chest.....4.00@6.00
Watermelons, per doz.....2.50@4.00

Dried Fruits.

Apples (evap.).....6 1/2@8
Apricots, per lb, new.....22 1/2@27
Figs, white.....4@5
Prunes, 4 sizes.....4@4 1/2
Peaches.....10@13
Pears.....8 1/2@11

Beans, Dried

Limas No. 1.....5.25@5.35
Pink.....2.30@2.50
Large White.....2.40@2.65
Black Eyes.....4.90@5.06
Red Kidneys.....3.50@3.75
Bayo.....2.85@3.00

Hops.

Fancy, 11c; choice, 8@10c; prime, 7@8c; common, 5@6 per lb.

Nuts.

Almonds, new.....17 1/2@18
Peanuts, California.....5 1/2@6 1/2
Walnuts.....12@18

Honey

Clear White Comb.....16@16 1/2
Amber.....12@15
Extracted.....5@7
Beeswax, per lb.....25@30

Hay.

Alfalfa, local.....9.00@13.00
Oat.....16.00@18.00
Wheat, No. 1.....19.00
Wheat, No. 2.....13.00@15.00

Grain.

Wheat, No. 1.....1.50@1.52 1/2
Barley, No. 1.....1.20@1.22 1/2
Corn, small yellow.....1.55@1.60
Corn, yellow.....1.45@1.50
Oats, White.....1.55@1.75
Oats, Red.....1.60@1.75
Bran, per ton.....20.00@22.00
Straw, per bale......50@.70
Feed Corn Meal, per ton.....32.50@33.50
Cracked Corn, per ton.....33@34
Oil Cake Meal, per ton.....40.00@41.50
Cocoanut cake, per ton.....25.00@26.00

Citrus Market

NEW YORK, July 8.—The market is strong and higher on oranges, dull and lower on grape fruit. Eighteen carloads of oranges and one of lemons were sold.

NAVELS—

Victory xc C C U.....\$1.75
Lochinvar xc R-H F Ex.....3.35
Belt st R-H F Ex.....2.35
Lochinvar xc R-H F Ex.....3.50
Quail xc O K F Ex.....2.60
Violet xc Duarte-Monrovia F Ex 2.70
Riverside st Riv F Ex.....3.15
Cerrito Or Gr Cash As'sn... 3.60
Flower or Upland Dis.....2.75

ST. MICHAELS—

Ocean Fy F H Speich & Co.....4.25
Plain3.55
Sweetheart xf H G F Ex.....3.05
Eagle xc H G F Ex.....3.60
Parrot xc San Antonio F Ex.....3.60
Golden Rule xc Riverside F Ex.. 4.10
Old Mission Fy Chapman's Ful't'n 4.20
Golden Eagle st Chap'n's Ful't'n 3.55
Our Favorite Fy Moulton & Gr'ne 3.90
Carnation xc Moulton & Greene 3.90

VALENCIAS—

Mountain Lion Fy F H Speich.. 4.10
Florence Fy J M Riley.....4.95
Blue Seal xf A-C-G F Ex.....4.55
Red Shield xc A-C-G F Ex.....3.70
Green Crown st A-C-G F Ex.....4.05
Rose xf Redlands Or Gr As'sn... 4.50
Old Mission Fy Chapm'n's Ful't'n 3.20
Golden Eagle st Chap'n's Ful't'n 3.70
Old Mission Ch Chap'n's Ful'ton 4.55
Slover Mountain or Colton Dis... 4.20

MEDITERRANEAN SWEETS—

Sweetheart xf H G F Ex.....3.75
Eagle xc H G F Ex.....3.80
Iris xf Duarte-Monrovia F Ex.. 4.05
Golden Rule xc Riverside F Ex.. 3.45
Independent Fy Highland Dis... 3.10

SEEDLINGS—

Golden Rule xc Riverside F Ex... 3.05

ST. MICHAELS—

Quail (half boxes) ? ?
GRAPEFRUIT.—Silver Buckle \$2.15; Shrode \$1.70; Violet \$1.40; Blaine \$1.40; Violet \$2.00; Blue Globe \$2.25; Rose \$1.85; Mt. Harrison \$1.25; Blue Globe (half boxes) \$1.90; Cerrito (half boxes) \$1.45; Flower (half boxes) 90c.

LEMONS.—Independent Fy \$4.50; Independent or \$3.85; Independent Ch \$3.10; Stock Label \$2.75.

TANGERINES—Silver Buckle (half boxes) \$1.25; Silver Buckle (100 boxes) \$2.65.

PITTSBURG, July 8.—The market is firm on good stock and weather very hot. Six carloads of oranges and one of lemons sold.

MEDITERRANEAN SWEETS—Coyote Ch O K F Ex.....\$3.05 Blue Jay st O K F Ex..... 2.45 California Orange st O K F Ex... 2.45 Red Globe xc Riverside F Ex.... 2.60

VALENCIAS—Pointer xc A-C-G F Ex..... 3.65 Hunter st A-C-G F Ex..... 3.25 Pointer T I xc A-C-G F Ex..... 3.60 Hunter st A-C-G F Ex..... 3.65 Aurora or Edmund Peycke..... 4.35

NAVELS—Red Globe xc Riverside F Ex.... 2.00 Blue Jay st Riverside F Ex..... 1.60 Eagle st Riverside F Ex..... 1.45

BUDED—Red Globe xc Riverside F Ex.... 2.60 California Or st Riverside F Ex.. 2.40

LEMONS—Majestic \$3.20

CLEVELAND, July 8.—The market is firm on good stock and the weather is very hot. Four carloads were sold.

ST. MICHAELS—Carmencita xc Semi-Tropic F Ex.\$3.55 Tiger Fy San B'd'no F Ex Colton 3.70 Floral Ch San B'd'no F Ex Colton 3.70 Tiger Fy San B'd'no F Ex Colton 3.25 Floral Ch San B'd'no F Ex Colton 3.05 Floral (half b's's) Ch S B Ex C't'n 1.45

GRAPEFRUIT Half Boxes)—Floral Ch San B'd'no F Ex Colton 1.55

LEMONS—La Mesa xf Riverside F Ex..... 4.30 Golden Rule xc Riverside F Ex.. 4.65 Golden st Riverside F Ex..... 4.15

VALENCIAS—Beauty st Flagler Packing Co.... 3.25

BOSTON, July 8.—The market is firm on good stock and the weather is warm. Ten carloads were sold and nineteen are on the tracks.

ST. MICHAELS—Golden Rule xc Riverside F Ex...\$3.25 Volunteer 3.45

VALENCIAS—Forget-Me-Not T C Porterville.. 4.25 West Highland Fy Highland Dis 3.70 Solano or Stewart F Co..... 3.70 Rescue Ch Stewart F Co..... 2.40 Anemone st C C U..... 2.45

BLOODS—Solano or Stewart F Co..... 3.10

MEDITERRANEAN SWEETS—Golden Rule xc Riverside F Ex.. 3.25 Golden st Riverside F Ex..... 3.35 Independent Fy Highland Dis... 2.95

NAVELS—Lochinvar xc R-H F Ex..... 3.25 Golden Rule xc Riverside F Ex.. 2.95 Rey Fy Semi-Tropic F Ex Fern'do 3.10 Tunnel Ch S-Tropic F Ex Fern'do 3.00 Urchin st S-Tropic F Ex Fern'do 2.65

GRAPEFRUIT—Independent Fy Highland Dis.... 2.10 West Highland Fy Highland Dis 1.60

TANGERINES—Silver Buckle (half boxes)..... 1.05

PHILADELPHIA, July 8.—The market is strong and the weather is hot. Seven carloads were sold.

VALENCIAS—Stag xf A-C-G Lateen Spur.....\$4.35 Pointer xc A-C-G Lateen Spur.... 3.40 Hunter st A-C-G Lateen Spur... 3.00 Purity Fy Tustin Packing Co.... 4.75 Old Oak st Tustin Packing Co.... 4.35 Lucky Ch Tustin Packing Co.... 3.95 Perfection xf H G Or Gr As'sn... 3.75 Carmen 3.70 Plute 3.55

NAVELS—Jasmine st O K F Ex..... 2.25

SEEDLINGS—Our Popular xc F H Speich & Co .55

CINCINNATI, July 8.—The market is steady and the weather warm. One carload is on the track.

NAVELS—Pomona S-A F Ex Pomona.....\$2.25 Hawk st S-A F Ex Pomona..... 2.00

MEDITERRANEAN SWEETS—Choice Queen Colony F Ex Corona 2.85

LEMONS—Duck st S-A F Ex San Dimas.... 4.30

GRAPEFRUIT—Royal xc Queen Colony F Ex C'na 2.60

ST. LOUIS, July 8.—The lemon market is very strong and the weather hot and muggy. Four carloads sold today and two are on the tracks.

LEMONS—Harbor Fy Charles Mohnike.....\$5.80 Ramona Ch Charles Mohnike..... 3.70

MEDITERRANEAN SWEETS—Searchlight st Sunst F Ex Orange 1.75

NAVELS—Lochinvar xc R-H F Ex..... 3.05 Belt st R-H F Ex..... 2.40

VALENCIAS—Hunter st A-C-G Charter Oak Ex 3.40

TREATMENT FOR GOOSEBERRY MILDEW.

Continued from First Page

In other plantations where spraying was carefully done the greater part of the crop was saved, the foliage remained in good condition and the fruit buds were set for a succeeding crop. The extent to which mildew can be prevented, by spraying, depends upon the weather conditions and location. In a wet season it flourishes abundantly and is indifferent to control. The disease, as already stated, usually obtains a foothold on the lower parts of the bushes where the shade is dense. These parts are very difficult to reach thoroughly with spray solutions, and in a year when the other conditions favor the spread of the fungus, are liable to harbor more or less of the disease unless the greatest care and thoroughness are used in spraying. In a dry season mildew can be almost prevented by thorough use of fungicides. On uneven ground the higher parts of a plantation seem to be less subject to the disease than the lower parts. The best location seems to be one well elevated, with a gradual slope affording good air drainage."

Then follows record of a series of experiments in which the fungicides and results are detailed.

Fungicides Used.

Bordeaux mixture is claimed to be of little value in handling this trouble. The table of results from spraying seven times with that mixture still shows more than fifty per cent of the disease shown in the "check rows." Formalin was also used and proved only fairly successful, while the best results were had with the simple spray of sulphide of potassium dissolved in water at the rate of one ounce to two gallons of water. The summary of the three season's work is given in these words:

"For three seasons, Bordeaux mixture, lysol and formalin have been compared with potassium sulphide, the latter giving the best results in all three series."

"The Bordeaux mixture proved comparatively valueless, as in but one series of tests did treated bushes show less mildew than check bushes; formalin in the strongest solution, one ounce to one gallon of water, gave fair results, but weaker solutions ranked with the Bordeaux mixture; lysol gave promising results coming next to the potassium sulphide in reduction of mildew injury."

With one exception, Bordeaux mixture, very early spraying gave better results than medium early or late treatments."

"Winter treatment was tested during one season, but did not give sufficiently favorable results to justify recommendation."

Recommendation.

"In a former bulletin potassium sulphide, one ounce to two or three gallons water, was recommended as the best remedy. The results of three years show that it is still the best fungicide the Station has thoroughly tested. Spraying should be begun very early just as the buds are breaking and continued at intervals of about ten days.

Further testing will be necessary to determine the relative merits of soda-Bordeaux mixture and the copper carbonate solutions in comparison with potassium sulphide solutions for checking gooseberry mildew."



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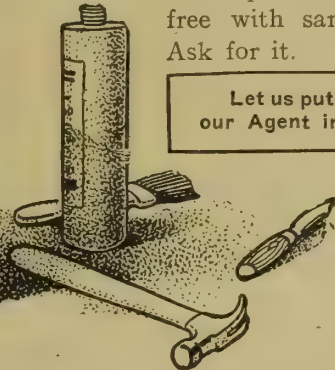
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Household Department

THE CALF PATH.

One day through the primeval wood
A calf walked home, as good calves should;

But made a trail all bent askew,
A crooked trail, as all calves do.

Since then two hundred years have fled,
And, I infer, the calf is dead.

But still he left behind his trail,
And thereby hangs my moral tale.

The trail was taken up next day
By a lone dog that passed that way;

And then a wise-wether sheep
Pursued the trail o'er vale and steep,

And drew the flock behind him, too,
As good bell-wethers always do.

And from that day, o'er hill and glade,
Through those old woods a path was made;

And many men wound in and out,
And dodged and turned and bent about,

And uttered words of righteous wrath,
Because 'twas such a crooked path;

But still they followed—do not laugh—
The first migrations of that calf,

And through that winding wood-way stalked
Because he wobbled when he walked.

This forest path became a lane,
And bent and turned and turned again;

This crooked lane became a road,
Where many a poor horse with his load,

Toiled on beneath the burning sun,
And traveled some three miles in one.

And thus a century and a half
They trod the footsteps of that calf.

The years passed on in swift feet;
The road became a village street.

And this, before men became aware,
A city's crowded thoroughfare;

And soon the central street was this
Of a renowned metropolis,

And men ten centuries and a half
Trod in the footsteps of that calf.

Each day a hundred thousand rout
Followed the zizzag calf about,

And o'er his crooked journey went
The traffic of a continent.

A hundred thousand men were led
By one calf near three centuries dead.

They followed still his crooked way,
And lost one hundred years a day;

For thus such reverence is lent
To well established precedent.

A moral lesson this might teach,
Were I ordained and called to preach.

For men are prone to go it blind
Along the calf-paths of the mind,

And work away from sun to sun
To do what other men have done.

They follow in the beaten track,
And out and in, and forth and back,

And still their devious course pursue,
To keep the path that others do.

But how the wise old wood-gods laugh,
Who first saw the primeval calf!

Ah! many things this tale might teach—

But I am not ordained to preach.

THE CONVERSION OF MARJORIE.

MARJORIE Milburn stood by the window with a vexed look on her pretty face, an open letter in her hand. "Oh, bother!! how provoking! I suppose I'll have to go though."

"Have to go where, dear?" said her mother, who had entered the room in time to hear the last words.

"To Bellview, mother; but here is the letter; it explains itself." Mrs. Milburn took the letter, which was as follows:

"My Dear Cousin: As the doctors have ordered your father to the seashore and Aunt Jennie must go, too, why can't you come down and spend your vacation with me? I would so love to have you; it has been so long since I saw you I feel as though we were almost strangers and would very much like to get acquainted. How is Uncle John. I hope much better. Well, mamma and I are going to drive out to town this morning so I must be going. Now please come, we shall be so disappointed if you do not.

Your loving cousin,
"Ethel Milburn,
Lake Side Farm."

June,—19—.

"Well dear, perhaps it would be a change," began Mrs. Milburn as she finished reading the letter.

"Oh well! I suppose I must go," said Marjorie, "but I do so hate the country! You remember don't you mother, when I went out to the country with Jessie Vane to visit her Aunt? what an awful week we spent! The mosquitos and flies and—Oh well, what's the use, I'll have to go I suppose."

"Your aunt and uncle would be hurt perhaps and your father I am sure would not wish to offend them. Your uncle wrote your father not long since that he was making some money, so perhaps you will be quite comfortable," said her mother.

"O, I dare say I shall get along somehow," said Marjorie as she left the room. Taking a photo upstairs to her room to study it presumably to see if it gave any indications as to what sort of place her uncle's farm was. It was her cousin's picture. "A nice face as seen in a photo" said Marjorie to herself, "but no doubt she has freckles and sunburnt hair, which don't show here. Yes, and red, rough hands (glancing at her own white fingers) like Jessie's cousins. Oh well, I'll try for her father is papa's own brother, but if I just can't stand it I'll come back and board or—something till papa and mamma come home."

The next week saw Marjorie on her way to Lake Side. After a two days' ride through a fine farming section, a very tired and I must say a rather homesick girl alighted at the little station of Bellview and stood alone on the platform rather perplexed to know what to do as there was no one there but an old farmer in a wagon, who she decided was not Uncle Will. "Oh yes, at last here comes someone, but no, that was certainly no farm turnout," Marjorie thought, as a nobby gig and fine spirited horse driven by a stylishly dressed young lady dashed up to the platform. "How do you do?" said a pleasant voice, "you must be Miss Marjorie Milburn," and Marjorie found herself being warmly kissed by the young lady who stood with the reins in her hand smiling down at her, who it must be confessed was looking rather surprised. They were

soon on their way past well cultivated fields and comfortable farmsteads and after a delightful drive of three miles turned into the gates of a fine, prosperous looking farm, with large barns sleek cattle and fine shrubbery surrounding the house. If not so stylish and showy as some city homes, it was large and by no means unpretentious. A farm hand came forward to take the horse away, and Marjorie soon found herself in a comfortable sitting room after being warmly welcomed by Aunt Hanna, who explained that Uncle Will had gone to a sale of pure-bred Short-horns but would be back by supper time. She was taken then to a large, airy room upstairs to rest awhile before supper, which she found not so elegantly furnished as her own at home, but delightfully cool and dainty and filled with the scent of lilacs and roses. Huge bunches of them decorated the dresser and stands, while the spotlessly clean muslin curtains were draped back, affording a charming view of the blue lake in the distance beyond green and velvety pastures and meadows.

Marjorie was surprised; this was a revelation to her. For, having gained her knowledge of the country by a ride past some out-of-repair and slovenly looking farms, she never dreamed what a nice place a well managed and up-to-date place really is.

She was up bright and early the next morning to see the garden and flowers and to help Ethel feed the chicks, while Aunt Hanna and Emily, the hired girl, prepared breakfast. Marjorie could not help comparing this with breakfast at home where her father before he was taken ill would rise and after breakfasting alone, was off to office many a morning before she and her mother were stirring. Here it was different. Every one was up bright and early and to their work while the dew was still on the grass and every leaf and twig sparkled like diamonds in the morning sun. There was an air of cheerful festivity about the whole place which was very pleasing.

Marjorie was heartily ashamed of her unkind thoughts about farms and farm people as she followed Aunt Hanna and Ethel about and tried to assist them in their work. "Do you milk many cows, Aunt Hanna?" said Marjorie, who had not seen any milk brought in nor had a glimpse of a milk pan though she had passed through the kitchen many times that morning.

"Only fifteen," said Aunt Hanna, who then remarked that the men had finished milking and separating before breakfast. She was taken to the separator room and was surprised to learn that the warm milk was run through this machine and all the cream taken from it while the sweet skimmed milk was carried at once to the pigs and calves.

"And that is all you have to do, no crocks or pans to wash, just put the can of cream down cellar, wash the pails?" said Marjorie in surprise who thought the farmers' wives spent the forenoon of every day carrying sour skimmed milk up cellar steps and washing innumerable crocks and pans. (For had not Jessie's aunt done so?)

"You girls may take the cream to market this morning before the sun is hot," said her aunt, or if you do not care to go father will take it, but Marjorie thought a three-mile jaunt behind the spirited black on

uch a morning would be delightful. The afternoon was spent by the lake a half mile distant where Uncle Will and the two girls fished the lazy hours away and "got acquainted" as Uncle Will expressed it. When they returned at four o'clock Uncle Will went to work in the garden while the girls hunted throughout the great barn for eggs. "The chicks must be fed and strawberries stemmed for supper," said Ethel. Marjorie was delighted with it already and when he wrote her mother that evening he said among other things: "I am having such a good time. I never thought life in the country was so nice."

So the days glided by: there was boating, fishing, horseback riding to say nothing of picnics and little excursions to the woods in which Aunt Hannah often joined. Marjorie's

cheeks grew plump and rosy and her eyes bright while the exercise in the open air each day gave her an excellent appetite.

"I never was so hungry in my life," she said to her mother when she returned home, "and such fruit and vegetables, cream and butter!" On rainy days when we were obliged to stay in doors we read or sewed, or there was Ethel's piano and violin always at our disposal and many happy hours were spent in the music room. So the weeks flew by and at last Marjorie received a letter saying her father was much better and would be able to return home immediately. With much regret Marjorie brought her visit to a close, not, however, without promising her uncle's family that she would be sure to spend her vacation with them again next summer.—Farmers' Tribune.

The Personal Neatness Club

RECENTLY Cultivator readers were favored with a few notes on "kinks" for girls in ironing ribbons, washing gloves, etc., by a subscriber who lives in Kentucky. We suggested our California girls take up the same matter and mail us items on little nice things to wear, how to keep room neat, where to keep gloves, handkerchiefs, "combs," now comes a couple of notes, one from the East again.

Miss M. H. tells of care of summer clothes. They are helpful hints. Read these, girls, then send in your hint to the Household Department, care of Cultivator, 115½ N. Broadway, Los Angeles.

Care of Summer Clothes.

How many women know how to preserve sweet and clean their summer dress, shoes, hose and so on. As soon as a waist is taken off, the sleeves should be turned wrong side out and allowed to air, and the dress shields should be sponged occasionally with alcohol and water and hung in the air to dry. The shields can be cleaned and freshened by washing them in warm suds to which a little ammonia has been added, and then after rinsing carefully, they should be pulled into perfect shape and pinned to a cloth drawn smoothly over a board.

Give added length of days to kid and other leather shoes, as well as keep them black and soft, by rubbing often with a little vasoline on a soft cloth, and when they become wet, they should be stuffed with soft paper to preserve the shape. The tops of high shoes should be turned back when taken off and the shoes placed on the window sill or some breezy place to get the sun and air, and nice hose should be filled with crumpled tissue paper and hung where the air can blow through them. White waists and dresses can be kept beautifully white and clean by washing them through a strong pearline suds and then rinsing through clean water, then they should be put through two blueing waters; the second a deeper shade than the first. By this means a better shade of blue is obtained as the color is more evenly distributed.

White veils may be nicely cleansed by soaking for half an hour in a solution of white soap, and the cleaning should be done by pressing and squeezing between the hands until they seem clean. Then rinse in clear water and again in water

slightly blueed with a little dissolved gum arabic added to give the right degree of stiffness.

Stocking Economy.

Instead of throwing aside a pair of nice stockings because the feet are worn out, buy a new pair of feet and sew them to the legs and you can get a good pair for ten cents.—M. H.

Flowers in the Room.

It may not be exactly along the line of the personal neatness you recently suggested in the Cultivator Household Department, but may I say just this: "That I wish more girls appreciated how much is added to their rooms and to the homes generally by the placing of a few simple flowers in the room. I recently saw a handful of "Tidy Tips"—Layia Elegans—which were so common over all the fields. No one had to cultivate them at great expense. Just went out and gathered a handful, dropped carelessly into a bowl where they took a most artistic shape which added beauty to the room for days. The Layias are gone, but in your own garden there are surely a few geraniums if nothing else. Make it a daily habit to place a simple bouquet where it will brighten the home.

Brother will like it (he may not say so,) mother will appreciate it and daddy won't grumble.—C. M.

HOMELY HINTS.

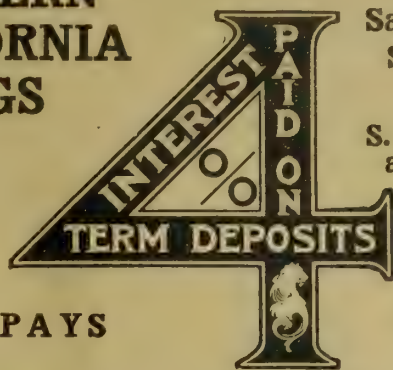
There are certain scents which insects will not tolerate, such as oil of cloves, oil of cinnamon, anise oil or oil of cedar. A few drops will scent a bureau drawer, and all bugs will keep away from it. Our informant declares that no matter how badly infested a bed may be, no bug will venture between sheets scented with any of these essential oils. Only a few drops are required, and a small vial should be in every traveler's kit.

Dates are good fruit, especially for persons inclined to be constipated. Here is a way to make nice date sandwiches: Cut thin slices of bread, butter lightly, spread with dates chopped fine, and form into sandwiches.

If nuts are eaten with salt they are more easily digested.

To prevent articles of silverware from tarnishing, warm them when well cleaned and paint them over with a thin solution of collodion in alcohol, using a wide, soft brush for the purpose. Articles so treated must be wiped only with dry cloths.

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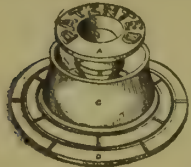
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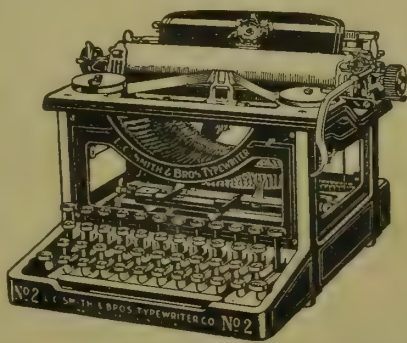
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Watsonville, Cal

DENATURED ALCOHOL AND THE FARMER.

DENATURED alcohol is simply the commercial grade of pure alcohol made unfit for use as a beverage by having added to it wood alcohol, which is poisonous. This denaturing process must be under control of the United States government.

It is not likely that the individual farmer will operate and own his still. This would interfere too much with the regular farm work. The expense of inspecting these stills and denaturing this alcohol in small quantities would be enormous. There is no reason, however, why co-operative or county distilleries should not be set up in which the farmers would own stock, furnish the raw material and use the finished product on their farms or sell the surplus. In this manner, tax-free alcohol must necessarily be a benefit to the farmer.

The cost of denaturing alcohol will be that of labor and the cost of the denaturing agents, and should not exceed five cents per gallon.

The chief alcohol yielding materials produced in farm crops is starch and sugar. Used for this purpose they yield about 45 per cent of their weight in alcohol. This gives us a basis for estimating the amount of alcohol which different crops may yield. Thus the per centage of alcohol making material in different farm products, of which about 45 per cent can be converted into alcohol, is about as follows:

Rice, 80 per cent, rye, 72, wheat, 71, barley, 70, corn, 70, Kaffir corn, 70, buckwheat, 64, oats, 60, cow peas, 55, peas, 50, potatoes, 17, apples, 16, sugar beets, 15, corn stalks, (green) 12.

For example, suppose a farmer raise but 100 bushels of potatoes on an acre, these will weigh 6000 pounds. According to the above table seventeen per cent of this, or 1200 pounds, is starch. This starch will yield about forty-five per cent of its weight in alcohol, or 459 pounds which equals sixty-seven gallons. Thus the alcohol produced from one acre of potatoes of 100 bushels yield, selling for twenty-five cents per gallon, would amount to the sum of \$16.75.

Calculations made from any of the other farm crops, as to the amount of alcohol which may be produced, will look rather small from the farmer's standpoint.

Under these conditions, it would hardly be a paying proposition to raise the average crop, for the production of alcohol. However, there is always, in connection with the farm, some products which could be readily converted into alcohol, which would otherwise be totally lost. This alcohol would, in the majority of cases, furnish the heat, light and power necessary for that farm, and would at the same time, tend to keep down the price of gasoline and kerosene.

For lighting purposes, alcohol has been found to possess almost twice the efficiency of kerosene. It furnishes a brighter, cleaner and whiter light, without the disagreeable odor, and is safer than kerosene.

For power purposes, according to Lucke, "An engine designed for gasoline or kerosene can, without any material alterations to adapt it to alcohol, give slightly more power

(about ten per cent) than when operated with gasoline or kerosene, but the increase is at the expense of greater consumption of fuel. By alterations, designed to adapt the engine to this new fuel, this excess of power may be increased to about twenty per cent."

"The different designs of gasoline engines are not equally well adapted to the burning of alcohol, though all may burn it with a fair degree of success."

In most localities it is unlikely that alcohol power will be cheaper or as cheap as gasoline power, for some time to come.

Too much must not be expected of the alcohol industry at once; its progress is bound to be slow. There are many problems to solve which will take considerable time.—H. M. Bainer, Professor of Farm Mechanics at Colorado Agricultural College.

DENATURED ALCOHOL FACTORY.

Details for formation of the American Alcohol Company which will enter into the extensive manufacture of denatured alcohol were perfected Monday, and capital to the amount of \$40,000 has been subscribed, principally by Ventura county men, says the Santa Paula Chronicle.

The formation of this company has been steadily but quietly going on for some months, with the result as noted above. The directors are F. Hartman of Ventura, Geo. C. Power of Saticoy, Robert Grower of Los Angeles, Frank Petit and Ben Virden of Oxnard and Emmet Crane of Santa Paula.

In the manufacture, what is known as the Palmer process, is to be used, it is named from the discoverer and patentee, Mr. Palmer, who turned over his right to Mr. Grower, one of the present directors of the new company, which in turn was acquired by the company.

This process is a cheaper and quicker process than any other, and since the government tax has been taken from denatured alcohol, it will be possible to manufacture alcohol cheaply enough to compete with a gasoline and coal oil for fuel, light and power.

TEACHING ALCOHOL MAKING.

At its last meeting the Board of Regents of the Minnesota State University appropriated a sufficient sum of money to install a de-natured alcohol plant at the State School of Agriculture. The purpose is to establish a plant for educational work to the end that students at the school next winter may receive practical instruction in the art of distilling and manipulating the plant, and also learn how to comply with the law and all other points necessary to equip one for running any kind of plant, from a small one to supply family needs only up to a co-operative one of any desired capacity. The plant cannot be installed until the government officials who are charged with the administration of the law announce what sort of device or devices are to be used, and this may not be done before September or thereabouts.

A meeting of fruit growers of the State is called at San Francisco to discuss ways and means of bringing before the government the injustice wrought to the dried fruit industry by the State by a construction of the Pure Food law so as to prohibit the selling of sulphured fruits.

GOODBY, MAYBE.

u hear that graft has got to go, it has been going some). Many an honest alderman has gathered in a crumb, but now the world has grown so good that grafting has to quit, and all the grafters may as well pack up their things and git.

used to be considered quite the thing for honest men to pull coin from the public crib. And then reach in again, and now we have a different code, and statesmen who are shy, they would graft and hold their own, must do it on the sly.

ce on a time, so I've been told, the game was much like tag, and statesmen were not counted bright who didn't get the swag, but now we raise an awful roar, a sort of man-size fuss, any of our public men hold out a stamp on us.

en let us bid farewell to graft, since from it we are free. It's safe to leave a red hot stove without a lock and key. The muck rake now is bearing fruit, we notice at a glance. No longer do our statesmen graft unless they get a chance.—Ex.

A RAINY SUNDAY.

T WAS a rainy Sunday in the gloomy month of November. I had been detained in the course of a journey by a slight indisposition, from which I was recovering; but I was still feverish, and was obliged to keep with-doors all day, in an inn of the small town of Derby.

A wet Sunday in a country inn! Heavily who has had the luck to experience one can judge my situation. The rain pattered against the casements; the bells tolled for church with a melancholy sound. I went to the windows in quest of something to amuse the eye; but it seemed as if I had been placed completely out of the reach of amusement. The windows of my bedroom looked out upon tiled roofs and stacks of chimneys, while those of my sitting-room commanded a full view of the stable-yard.

I know of nothing more calculated to make a man sick of this world than a stable-yard on a rainy day. The place was littered with wet straw that had been kicked about by the travelers and stable boys. In one corner was a stagnant pool of water, surrounding an island of muck. Some half-drowned poultry were crowded together under a cart, among which was a miserable crest-fallen fowl, drenched out of all life and spirits, his drooping tail matted, as it were, into a single feather, along which the water trickled from his back.

Near the cart was a half-doing cow chewing the cud, and standing patiently to be rained on, with wreaths of vapor rising from her reeking hide. A wall-eyed horse, tired of the loneliness of the stable, was poking his spectral head out of a window, with the rain dripping on it from the eaves. An unhappy cur, chained to a dog-house hard by, uttered something now and then between a bark and a yelp. Everything, in short, was comfortless and forlorn.

I sauntered to the window, and stood gazing at the people picking their way to church, with garments carefully lifted and dripping umbrellas. The bells ceased to toll, and the streets became silent. The day continued powering and gloomy; the slovenly, ragged spongy clouds drifted heavily along; there was no variety even in the rain; it was one dull, continued,

monotonous patter, patter, patter, except that now and then I was enlivened by the idea of a brisk shower, from the rattling of the drops upon a passing umbrella.

It was quite refreshing (if I may be allowed a hackneyed phrase of the day) when in the course of the morning a horn blew, and a stage-coach whirled through the street, with outside passengers stuck all over it, cowering under cotton umbrellas, and seethed together and reeking with steams of wet cloaks and overcoats. The sound brought out from their lurking places a crew of vagabond boys and vagabond dogs; but all the bustle was transient; the coach again whirled on its way; and boy and dog slunk back again to their holes; the street again became silent, and the rain continued to rain on.—Washington Irving.

WITH THE COOK.

Tomatoes With Shrimp Filling.

Scoop the pulp from six large tomatoes, and turn them upside down to drain. Brown two slices of onion in two tablespoons of butter; when done, lift out the onion and add the tomato pulp. Cook till quite thick; add one cup of fine stale bread crumbs, mix thoroughly, remove from the stove, and stir in a quarter of a cup of cream, one and a half cups of shrimps cut in small pieces, and salt and pepper to taste. Fill the tomato shells with this mixture; cover the tops with buttered crumbs and bake in a hot oven until nicely browned. Serve each on a round of hot buttered toast. Salmon may be used in place of shrimps if preferred.

To Can Strawberries.

To can a quart of fruit, take two quarts of select ripe fruit. To this add one cup of sugar and a very little water. Do not add too much water, as the berries are very juicy and a great deal of fluid will be taken from them. Place the berries, water and sugar on the stove and bring to a boil. Then put them and the desired amount of juice in the jar and seal as you would any other fruit. Lay the jars on their sides till the berries have cooled and the latter will not sink to the bottom, but will remain evenly suspended in the juice.

Cheese Fondue.

This dish is really delicious and is a good substitute for any meat, containing as it does a large per cent of the tissue elements.

One cup stale bread crumbs; 1 cup milk; 1-3 cup grated cheese; yolks of three eggs; 2 tablespoons butter; 1 teaspoon salt; 1-8 teaspoon red pepper; 1-2 teaspoon celery salt; whites of three eggs.

Put all but whites in top of a double boiler, stir until cheese is melted, when partly cooled, fold in to the stiffly beaten whites and bake in a moderate oven 20 minutes.

Roast Lamb.

The hind quarter of a lamb makes the best roast. Put it into a covered roaster, season with salt and pepper, rub with flour and baste with good sweet drippings and a very little water and cook slowly two hours. The water should have all cooked away leaving the flour browned in the pan. Brown more flour in the drippings and make a gravy to serve with meat. Garnish with parsley and serve with mint sauce.

TRAINING THE FACULTIES.

Nikola Tesla was talking about his student days at Prague.

"I remember well at Prague," he said, "an old professor of great originality and acumen. This professor insisted on the value of a free use of the perceptive faculties, and he was always pointing out the need for this use in strange ways."

"One day, on arising to lecture, he began:

"Gentlemen, you do not use your faculties of observation as you should."

"He laid on the table before him a pot, filled with some vile-smelling chemical compound—a thick, brown stuff.

"When I was a student," he went on, "I did not fear to use my sense of taste."

"He dipped his finger deep into the pot then stuck the finger in his mouth.

"Taste it, gentlemen. Taste it," he said, smiling grimly.

"The evil pot passed round the class, and one after another we dipped our fingers in it and then sucked them clean. The taste of the thick brown compound was horrible. We made wry faces and spluttered. The professor watched us with a grim smile.

"When the pot was finally returned to him, his thin lips parted, and he gave a dry chuckle.

"I must repeat, gentlemen," he said, "that you do not use your faculties of observation. If you had looked more closely at me you would have observed that the finger I put in my mouth was not the one I dipped into the pot."

CITY FOLKS SURPRISED.

A correspondent to the Sacramento Union from Colusa gives the following touching incident: Some San Francisco visitors were the innocent cause of a peculiar runaway accident near here. They had come to look at some land and on the way their automobile evinced that tired feeling which eventually led to the usual halt en route.

While fixing the machine, a farmer came driving up with a two-mule team hitched to a wagon. Attached to the wagon was an empty buggy and tied to the back axle of the buggy one mule.

The two mules didn't shy at the stranded automobile, nor did the driver nor the wagon. Nor did the buggy. But the two-eared party who closed the procession, decided that he would have some fun and planting his front feet firmly on the ground threw himself back with such force that he broke the rope which attached the buggy to the wagon. It left him just enough space to turn around and off he set at a wild gallop, dragging the buggy backwardly by its axle, the shafts flopping in the air, like one in distress. After covering about half a mile in sixty seconds, the vehicle upset and Mr. Mule dragged it sideways for a while until he finally smashed it. The folks had seen many things to interest them, but none so unique as a buggy running away backward with no animal in the shafts.

The Cultivator would like—but not for publication—a transcript of the farmers' remarks to "them chug-wagon fellers."

COOL WATER FOR PICNICS.

The water-bag has supplanted the old-time jug—much to the joy of the fellow who has the carrying of it and to all who are fortunate enough to partake of the contents. The Appell South African Water Bag is a recent invention which keeps drinking water

cool for fully forty-eight hours, and under all conditions, provided the bag is exposed to the air.

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For practical cow milking machine see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles.

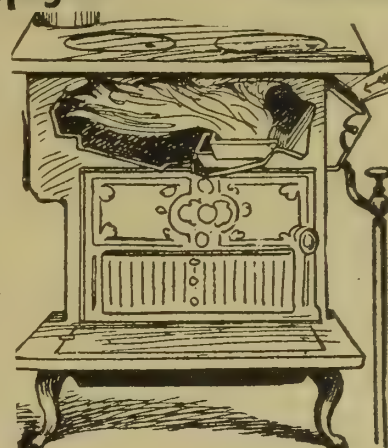
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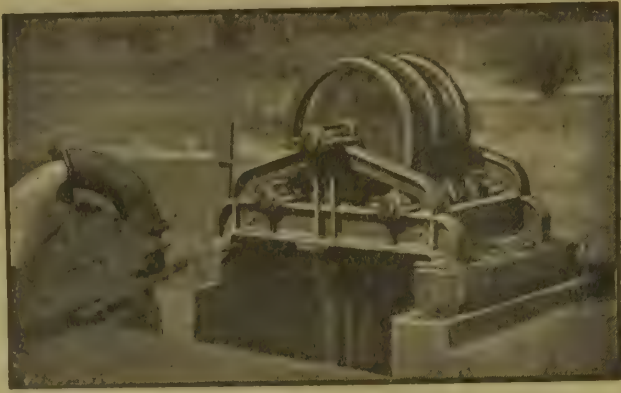
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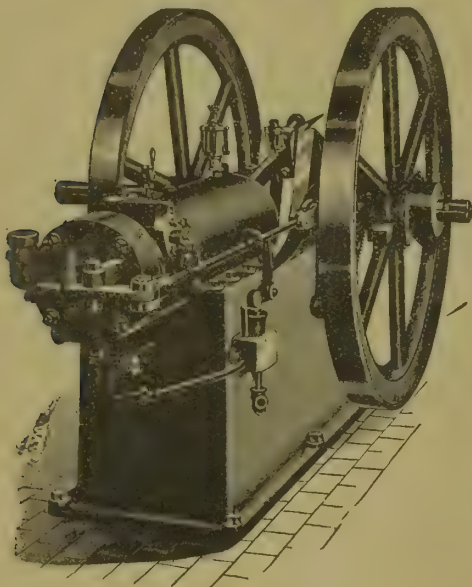
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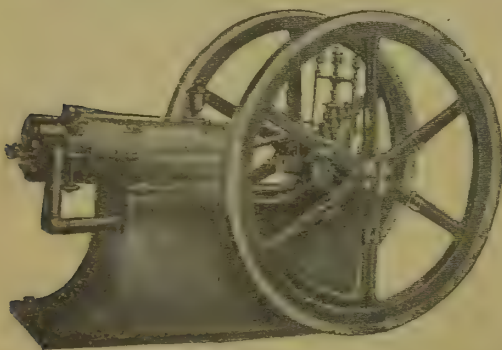
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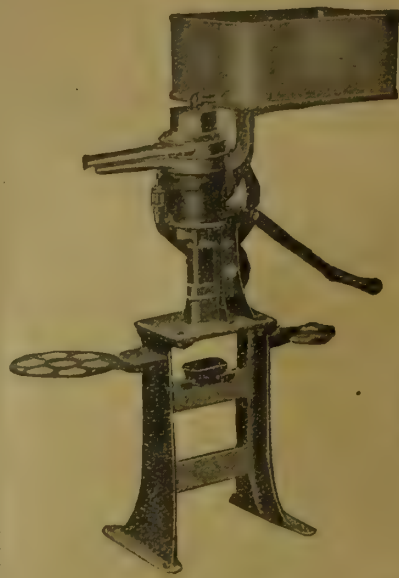
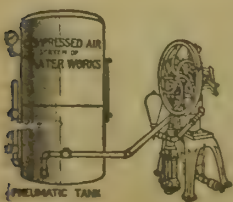
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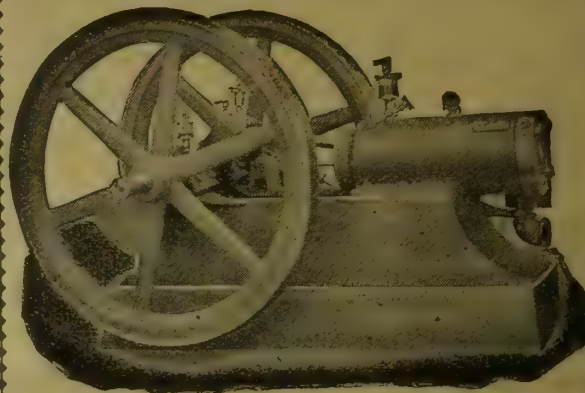
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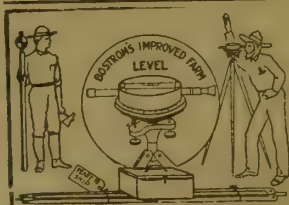
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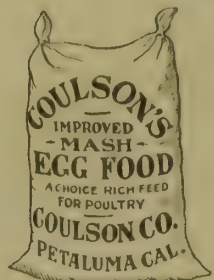
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—Arthur James Todd in Sunset.

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First cost is not everything, but even in this respect, COULSON'S IMPROVED MASH EGG FOOD shows to advantage. A 90-lb. sack will make a meal for 1250 hens. This is just over 2 lbs. a hen a month. Think how many eggs does it take to pay for this feed? In November, only 1 egg, and not more than 2 on the average.

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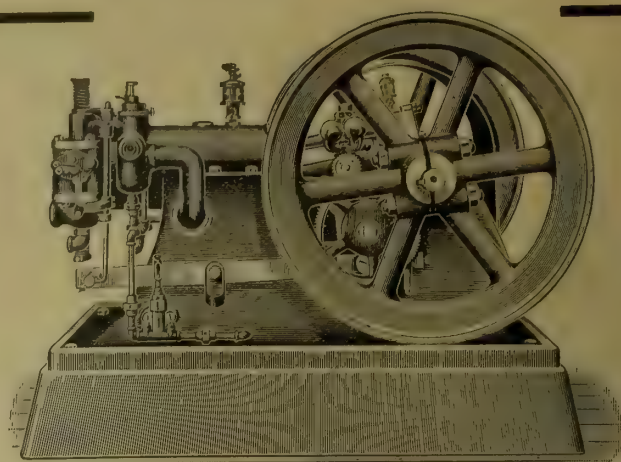
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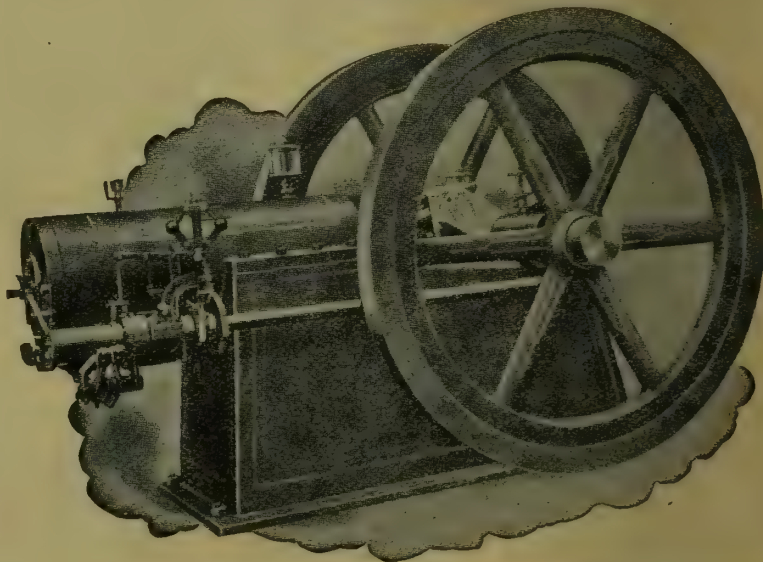
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To the man who wants plenty of water, little trouble and economical engine, and one that develops the full horse power, we can cheerfully recommend the Columbus Engine.

We have had experience with high speed so-called big horse power engines, and know whereof we speak when we recommend the Columbus Engine to the public, knowing that it is a kind you can depend upon, free from all trappy devices, simple to operate and economical.

The writer has run a 10-horse Columbus Engine at Tropico, for the past four years, and can vouch personally for the above statement.

Trusting that this information will be a benefit to those interested, we beg to remain,

Yours very truly,
THE ANAHEIM PRODUCE CO.,
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Los Angeles Cal.

California Cultivator

Vol. XXIX—No 3

Los Angeles, California, Thursday, July 18, 1907

Subscription \$1 a Year

Sociology and Irrigation

Written for the Cultivator by W. A. Beard, Chairman Executive Committee of the National Irrigation Congress to Be Held in Sacramento, September 2-14, 1907

AT THE COMING Interstate Exposition of Irrigated-land Products and Forestry products which will be held in Sacramento September, 2-14, Baker and Hamilton have offered a magnificent silver punch bowl as a trophy for the best display of cereals raised on irrigated land. This competitive exhibition of irrigated land-forestry products will be inaugurated as a feature of the Fifteenth National Irrigated Congress which begins its sessions September 2nd. It will continue a week after the closing of the Congress itself, that is during the continuance of the California State Fair.

The trophy is one of a superb line of magnificent and costly prizes and awards hung up for the same event. The actual cost of the collection aggregates more than ten thousand dollars, and is supplemented by a list of other prizes bringing the total up to a sum in excess of twenty thousand dollars, the largest ever distributed in this way at any similar event in the United States. Among the other prizes in the list is a Holsetein bull of the famous Pierce Riverside herd, valued at \$1000.

The Baker and Hamilton gift is an exquisite bowl-shaped design, gracefully worked out to the minutest detail. It stands 15 3-4 inches high and measures 13 3-4 inches across the top. It is heavy and massive in appearance. The decoration wrought in repousse handwork depicts the various cereals grown in irrigated lands. The inscriptions will be placed in the panels arranged for the purpose, one being reserved for the medal of the Fifteenth National Irrigation Congress.

Important to California.

The importance of the coming session of that body in its relation to the highest interest of California cannot be overstated. No matter from what point of view it is regarded, the influence which it exercises as a factor of both material and social development in the West becomes plain upon examination of the movement in its entirety for which the Congress stands.

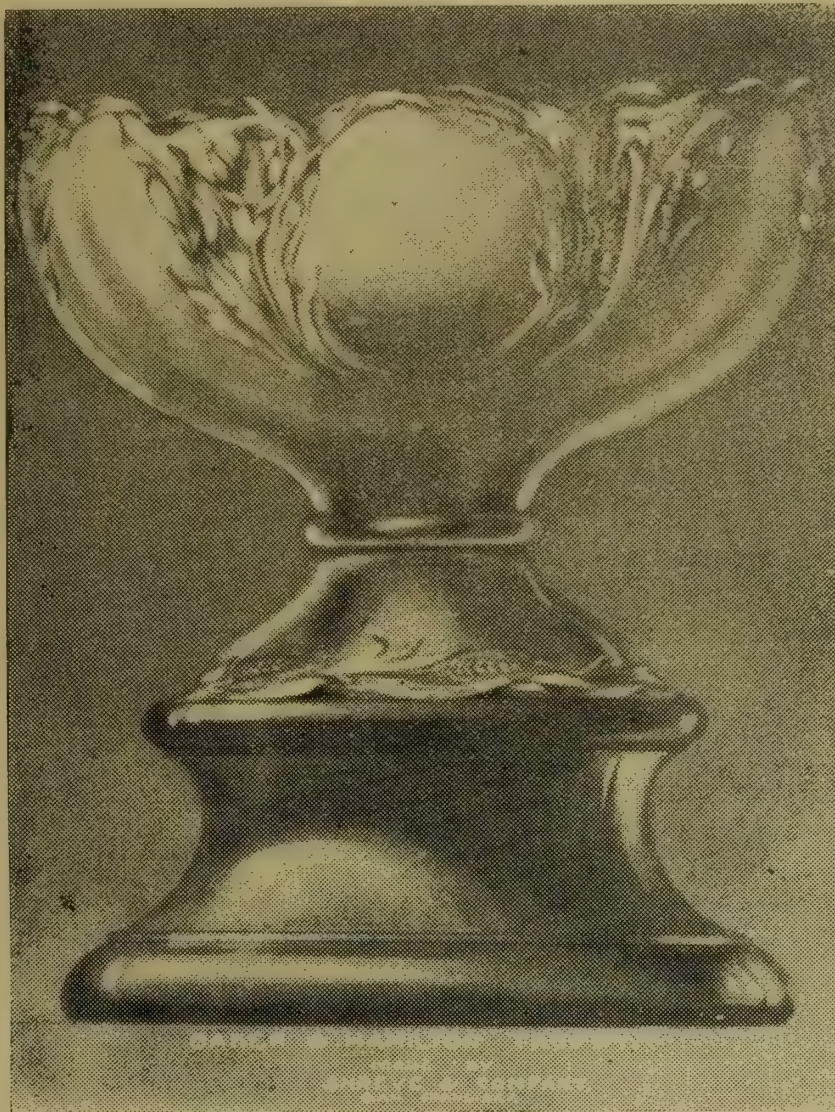
If viewed from the sociological side, the bearing of the activities of this propaganda upon the life of the community in all its various phases, impresses itself upon the thoughtful mind.

Make Rural Social Life Attractive.

For the sociologist, indeed, there is no question pressing more assiduously for determination than that of the abandonment of the farm for the city by our young men, and the aversion of immigrants to agricultural life. The question commands so much interest and its answer is so vital to National prosperity that American publicists have come to the assistance of sociology, and we find it engaging the attention of influential men in public life. It is quite generally agreed that the disparity between the social life of the town and the relative isolation of the farm is

largely responsible for this aversion to rural environment.

Of course, there are other influential determinations of the constantly growing disposition such as the larger opportunities for money afforded by the cities and the elaboration of openings for a wider variety of talents and specialization, but when reasonable allowance has been made for these and other conditions, Sociologists, as a rule, are convinced that the disparity in



the social life remains the paramount explanation.

Fortunately the question is being answered and not in the terms of the sociologist student either; true the settlement will meet the suggestion that the social life of the farmer must be improved, but no sociologist has indicated the means by which this reform could be accomplished. Intensive farming is preparing to restore the equilibrium between the impetuosity of urban living and the serener rural life. Isolation, the foe of the social life is to be destroyed for the agriculturists and in its stead the community plan substituted.

Irrigation Will Aid.

In this work the National Irrigation Congress which holds its Fifteenth annual session in Sac-

ramento, California, in September next, is the pioneer. By irrigation the soil will be made to produce its full capacity and it is inevitable that the land will be subdivided and large areas converted into communities. The community begets the social life and the aversion to dwelling on the farm will disappear.

President Roosevelt in his address before the Michigan Agricultural College touched on this phase of the great National movement set in motion by the act of Congress commonly known as the Reclamation Act, which was passed in 1902, in these words:

Roosevelt Says:

"We cannot too strongly insist upon the fact that it is quite as unfortunate to have any social as any economic falling off. Ambitious, native born young men and women who now tend away from the farm must be brought back to it, and therefore, they must have social as well as economic opportunities. There should be libraries, assembly halls, social organizations of all kinds. The school building and the teacher in the school building should, throughout the country district, be of the very highest type. The country church must be revived. All kinds of agencies, from the rural free delivery to the bicycle and the telephone, should be utilized to the utmost; good roads should be favored; everything should be done to make it easier for the farmer to lead the most active and effective, intellectual, political and economic life."

Surpassing Predecessors.

The coming session of the National Irrigation Congress at Sacramento gives every indication of surpassing its predecessors, both in the scope of its work and in the larger area which will be represented by delegations. Advices received at the California headquarters of the Board of Control come from a wider range of country and indicates clearly that the work of the Congress is making great headway among practical men of affairs, as well as among men of science and those in high official position, both in the United States and the nation. Irrigation is one of the influences that are doing things in

this country. California presents abundant examples of the beneficial results that are meeting the sociological requirements in reply to the question raised by the neglect of the farms for the cities.

As a result of the National Irrigation Association's work, begun in 1899, there has been practically \$43,000,000 put behind reclamation by irrigation. In five years that sum should be behind drainage, either through the government or private enterprise. In other words, \$215,000,000 used in drainage would put into cultivation land that is now unfit for cultivation to a greater amount per acreage than the empire of Japan. Shall we reclaim the wastelands and put industrious people upon them to cultivate the soil and add to the wealth of the country?—The New Southwest, St. Louis.

The Water is Measured

THE Canadian government very carefully measures the flow of water in every stream from which water is taken for irrigation purposes—No one can secure a permit to build an irrigation ditch unless the water is there to supply it, and it must be of sufficient quantity to supply it at the season when the flow is least.

That prevents shortage of water at all times and in all places where irrigation flourishes—The result of this policy is that there is no litigation over water rights for everyone who farms has all the water he wants.

Just think of this combination:

All the water you can use for your crops and live stock right in your field at any season of the year, fine soil that will produce almost anything that will grow in the temperate zone, good climate, which assists in producing enormous crops and good health, as good markets as are to be found in America.

All these and more we have in

SUNNY SOUTHERN ALBERTA.

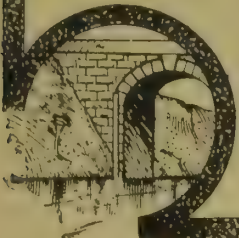
We have as good land as lies out of doors at very low prices, both irrigated and non-irrigated. We are selling this land on terms that anyone can stand.

You will prosper in Alberta—You can't help it if you are willing to work as hard as you now work, because there is everything here to assist you and no draw backs.

If you are laboring under a mortgage—if you are tired of trying to make high priced land pay—if you want to make money easier than you ever made it before—if you want to raise the largest crops you ever saw grow—if you want to live in a good neighborhood, among good people—if you want to enjoy one of the best climates on the American continent—if you want to enjoy the best health you ever had—if you want to educate your children in as good schools as you now have write us and let us tell you how you can see this glorious country at very small expense, and judge for yourself that what we say about it is true.

Now is the time to come, for land is going higher every day—The sooner you buy the larger your profits.

CANADIAN PACIFIC
IRRIGATION COLONIZATION CO., Ltd.
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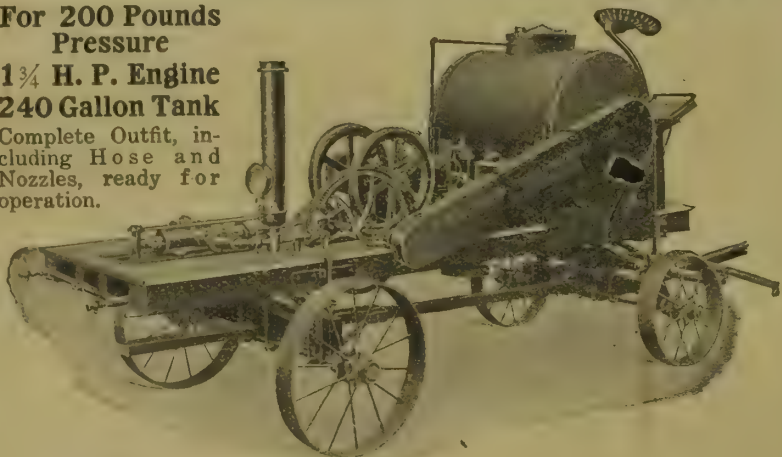
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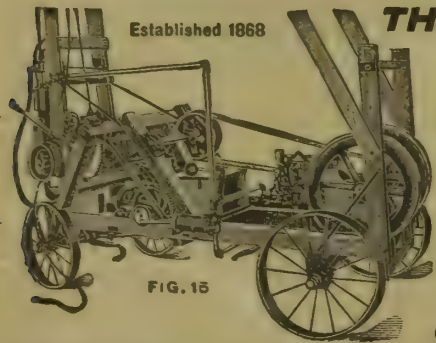
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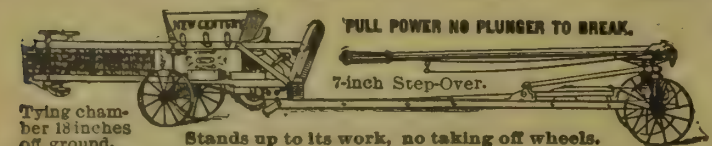
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Tying chamber 18 inches off ground.

Stands up to its work, no taking off wheels.

FULL POWER NO PLUNGER TO BREAK.

7-inch Step-Over.

STRONGEST PRESS ON EARTH. ALL IRON AND STEEL.

Constructed especially for heavy California hay baling. Write for proposition to ship you a New Century on 10 Days Free Trial. Sold on easy payments. Shipped direct from warehouse in Los Angeles. For full particulars address **Capito Carriage Co., 12th and Main, Los Angeles, Cal**
Two Second-Hand Presses For Sale at a Bargain

Deciduous Fruit Culture

THE VALUE OF GREEN CROPS.

THE value of a green manuring crop may not always be determined by its capacity for gathering and fixing the nitrogen of the atmosphere. The after treatment has very much to do with it and one crop that is low in power to conserve this element, when worked into the soil properly may give better return than one much richer, but worked to a disadvantage. It is well known that growth when turned under fresh and green rots much quicker than when allowed to become dry before plowing under. The nitrogen in either case is not immediately available, but that which is quickly rotted is more quickly available.

Plow Under Early.

Nitrification must take place before the growing plants can use it. Decay is the first process and by the time the dry material is in form to use, the lush material has long passed into to use. There are two reasons for this. One is, that the dry material consumes more time in decaying, other conditions being equal, and furthermore, the soil is dryer late in the season, retarding the process of decay still more. The most important reason is, that moisture is absolutely necessary in the process of nitrification. The decay of lush vegetable matter in the warm spring weather is particularly favorable to the transformation of the elements into an available form. When the conditions are delayed part the period of the first spring weather, there is not only a shorter period during which the crops can avail themselves of it, but there is liable to be a greater amount left unused in the soil to be washed out by the winter rains.

Vetches are Good.

Assuming the above to be true, the crop that remains succulent latest in the season, other things being equal, is the best for farmers to use. Vetch seems to possess this property to the greatest extent of any of our winter growing crops and fortunately, it is exceptionally high in nitrogen. Of several analyses of vetch, it was found that assuming the value of the contents of the vetch in nitrogen, potash and phosphoric acid from one acre, the nitrogen composed 71 per cent of the value, potash 24 per cent and the phosphoric acid five per cent. Lupines have been known to return to the soil three times as much nitrogen as vetch; still it is not known how much nitrogen each takes from the soil aside from that taken from the air. The vetch seems best adapted to our conditions in several ways.

How Much Nitrogen.

Just how much of the nitrogen comes from the air, that is found in legumes, will be perhaps never be determined. Vetch, for instance, under favorable conditions, has produced 120 pounds of nitrogen per acre; barley has produced 110 pounds of nitrogen per acre, a better showing than most legumes make.

Two such crops giving such close results, would lead us to suppose, one being a nitrogen gatherer and the other not, that the nitrogen gatherer only extracted ten pounds of nitrogen from the atmosphere. This however, may not be so as it has been proven that legumes will, when carrying the nitrifying bacteria, store up an abundance of nitrogen when growing in pure sand in which not a trace of nitrogen is found. Again, all soils

are not equally rich in nitrogen. One soil may be full of it and in a few weeks contain but a small amount.

Varying Conditions.

A French scientist one time found that a certain soil contained 800 pounds of nitrate of soda per acre in a layer of soil near the surface. Three weeks later he found less than 30 pounds in the same soil. In the former case it was during a severe drouth and the latter after a heavy rain. Where nitrogen in the available form is abundant, legumes usually take it readily from the soil and show few nodules on the roots, but where the soil is deficient, the plants get to work and take it from the atmosphere. Should a barley crop be growing in soil rich in nitrogen, it would draw heavily on it. Should a vetch crop be growing on a soil poor in nitrogen, it might not be able to take in so much nor as rapidly as the barley would directly from the soil.

Only one-third the varieties of pears under cultivation are capable of fertilizing themselves. Two-thirds do not fertilize and will be unproductive and unprofitable unless planted near other varieties. Not more than three rows of one variety should be grown together and another variety should be planted alongside these three rows. It is still better if every third row is a different variety. The varieties which do not fertilize themselves are Bartlett, Anjou, Clapp's Favorite, Clairgeau, Sheldon, Mt. Vernon, Lawrence, Howell, Louise Bonne, Souvenir du Congress, Winter Nelis, Bosc, Easter and Superfine. Self-fertilizing varieties are Doyenne, Kieffer, Buffum, Flemish Beauty, Leconte and Tyson. In many cases cross fertilization changes the shape of the fruit and influences the number of seeds. When the blossoms fertilize themselves the seeds may be imperfect. In large orchards of one kind alternate rows may easily be grafted to other varieties.—Field and Farm.

It is apparent to all that the one thing most needed in our soils is decaying vegetable matter. This material is very soon exhausted because of the action of our intense sun. But this is something we must learn to counteract if we are to maintain the fertility of our orchard lands indefinitely. The best way to secure this decaying vegetable matter is by plowing under some form of green manure. Just what this crop shall be, and how it shall be handled, remains to be determined by experiment. A number of people in various localities have been turning under green crops in their orchards for several years and with good results. The possibilities along this line are all before us, and we believe that in the near future great strides in this direction will be made.

There can be no question but that the sulphur, lime and salt solution is a very efficient fungicide. It surpasses anything I know of for cleaning up the trunks of trees and it has a very marked effect upon the freedom from scab of both fruit and foliage.

The knife and saw still remain the principal remedies against the blight. We have not yet found a remedy that may be applied to and cure sick limbs and twigs.

General Agriculture

GINSENG.

OWING to many inquiries which come to the Cultivator of ginseng in this State, we have made many inquiries and still feel that Californians should "make haste slowly" in taking up its culture. Also wishing further information, we have written the Department and have the following reply:

Where Native.

Ginseng is native in rich, moist soil in hardwood forests from Maine to Minnesota and southward to the mountains of northern Georgia and Arkansas, and has been cultivated in small areas from central New York to Missouri. So far as we have any record, ginseng has never been successfully cultivated outside of its native range. No experiments in the cultivation of ginseng are being made by the Department of Agriculture.

Cultivation.

In cultivating ginseng the conditions of its native habitat must be followed as closely as possible. It needs a deep, rich soil, and, being a plant accustomed to the shelter of forest trees, will require shade, which can be supplied by the erection of thatched sheds over the beds. A heavy mulch or similar well-rotted vegetable material should be supplied to the beds in the autumn.

The seed, which is supposed to lose its vitality if allowed to become thoroughly dry, is sown in the spring or autumn in drills 6 inches apart and about 2 inches apart in the row. The plants remain in the seed bed for two years and are then transplanted, being set about 8 inches apart each way. It requires from five to seven years to obtain marketable roots from the seed. If roots are planted a marketable product will be obtained sooner, according to the age and vigor of the stock used. The roots are set about 8 by 8 inches apart. When the roots have reached marketable size they are dug, washed, sorted and dried.

Chinese Only.

Aside from the small amount of ginseng consumed by the Chinese residents in this country, most of the ginseng produced in the United States is exported to China. During the year ended June 30, 1904, the exports from the United States amounted to 146,576 pounds, valued at \$1,69,849. Wild root is worth from \$5.75 to \$8 per pound, according to quality. Roots of southern origin bring less than those from northern localities.

The Department has no seeds or pots of ginseng for distribution. These are advertised in many newspapers and magazines, but the Department can not undertake to recommend or guarantee the reliability of any particular firm. The seeds are usually advertised at from 1 to 5 cents each, and the roots, according to age, from \$5 to \$20 per hundred. A pound contains about 8000 seeds.

Special Conditions.

Since the successful cultivation of ginseng calls for special conditions and unusual care in treating the seed and plants, it is clear that there will be a very large number of failures. Moreover, if a small proportion of those who contemplate going into ginseng cultivation succeed, there is danger that overproduction may ensue, with a consequent fall in price. In marketing the dried root of late, a marked discrimination

against the cultivated article has developed, founded, it is claimed, on the failure of the Chinese to accept it, the wild root being preferred. At this date there seems to be almost no sale for the American cultivated root. How long this condition of the market will continue is not known. All these considerations make it wise for those who contemplate going into ginseng cultivation to look at their prospects with conservatism.

Ukiah will receive \$70,000 from its wool clip this season.

THE SOCIAL FEATURE OF GRANGES.

The social feature of the grange, says the spokesman Review, is one of its strongest recommendations. Legislative propositions may be discussed and advocated at the general meetings; the political situation may have attention, especially from those who like to talk in public; theories on various subjects may be advanced by enthusiasts—but after all it is the establishment of fellowship among neighbors that does the most good and gives light to the farmer's life.

In the local granges the things that are of immediate concern are talked over. Practical suggestions,

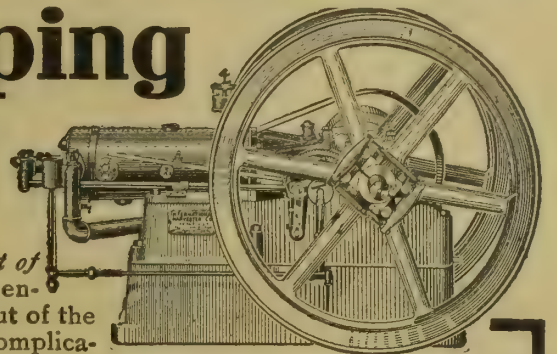
based on individual experiences, are exchanged. How best to make the most out of the land is discussed. The women talk over the things in which they are particularly interested. Sociability is developed.

Under proper conditions agricultural phosphate is a very effective fertilizer. The principal of these conditions are good mechanical condition of the soil, a sufficient supply of humus, and thorough distribution of the phosphate in the soil. The use of barnyard manure with the phosphate also increases its effectiveness, and conditions which promote the growth of bacterial flora in the soil favor assimilation of the phosphate.

Irrigation Pumping

is done easily and economically with an

I. H. C. Gasoline Engine



WHETHER you are pumping from deep wells, shallow wells, reservoirs, canals, or running streams, an I. H. C. gasoline engine is the one best power.

It is the best for a number of reasons.

In the first place, it is *easily operated*. You don't need an engineer to look after it—in fact it requires practically no attention whatever—it will run for hours at a time, safely and regularly, and when it does need attention, your small boy or girl can look after it as well as you can.

Next it will *not get out of order*. I. H. C. gasoline engines are made throughout of the best materials, and all complicated parts have been eliminated.

And again, it is *economical*.

Ordinary stove gasoline is the fuel it uses, and it gets all the power out of it and wastes no fuel. And gasoline is something you can always have ready. Buy it by the barrel, and it is easy to keep a supply on hand.

And there are many other features which we can't go on to explain here—durability, safety, convenience, etc. Investigate

them before you buy. It will pay you to know all about them.

I. H. C. gasoline engines are made in various styles,—Vertical and Horizontal, Stationary and Portable, and in sizes ranging from 2 to 20-horse power. When not in use for pumping they furnish excellent power for sawing wood, cleaning grain, grinding feed, shredding fodder, separating cream, etc.

Call on Local Agent or write nearest general agency for illustrated catalogue.

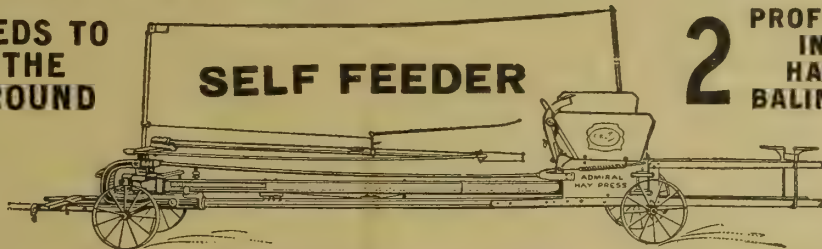
Western General Agencies: Denver, Colo., Portland, Ore., Salt Lake City, Utah, Helena, Mont., Spokane, Wash., San Francisco, Cal.
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3 FEEDS TO THE ROUND

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The difference in the increased earnings of the ADMIRAL THREE-STROKE SELF-FEED PRESS more than pays for the press in one season, at a conservative estimate of 2½ tons per day over the old style two-beat, foot-feed press, besides the ease of labor on both men and team, and better work. Let us figure a little to convince you.

2½ Tons per day for one week, 15 tons at \$1.50 net.....\$ 22.50

One month's earnings over the other press (26 days)..... 97.50

On an estimate of five months' work out of the year..... 487.50

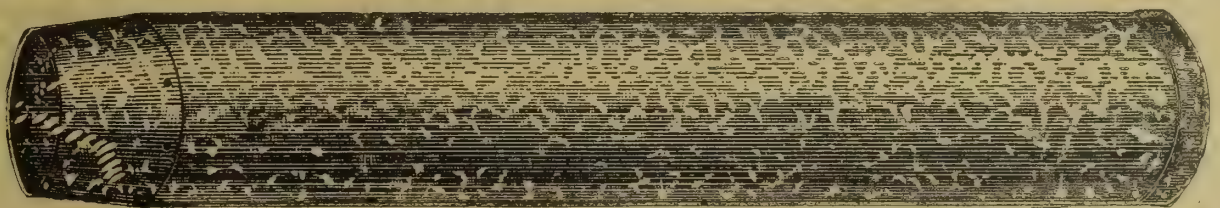
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TALLERDAY SURFACE IRRIGATION PIPE



SAVES WATER, GRADING AND TIME

The **only** way to **Irrigate Alfalfa**. **Cheaper** than **Flumes**. This is **only one** of our **specialties**. We make **Riveted Water Pipe** in lengths of **ten feet** from **single sheets**. Let us **prove** to you that we make **Pipe** and **Tanks right**. **WRITE FOR CATALOGUE**.

TALLERDAY MANUFACTURING CO.

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**Gombault's
Caustic Balsam****Has Imitators But No Competitors.**

A Safe, Speedy and Positive Cure for
Curb, Splint, Sweeney, Capped Hook,
Strained Tendons, Founder, Wind
Puffs, and all lameness from Spavin,
Ringbone and other bony tumors.
Cures all skin diseases or Parasites,
Thrush, Diphtheria. Removes all
Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism,
Sprains, Sore Throat, etc., it is invaluable.
Every bottle of Caustic Balsam sold is
Warranted to give satisfaction. Price \$1.50
per bottle. Sold by druggists, or sent by ex-
press, charges paid, with full directions for
its use. Send for descriptive circulars,
testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.

**Clean Skimming
Means Good Living**

The hog trough is no place to put butter.

Wide awake farmer! Want the
cream separator that skims the clean-
est. It means more profit—better
living. That separator is the Sharples
Dairy Tubular—no separator that's
different.

Sharples Dairy Tubulars have
twice the skimming force of any other



separators—skim twice as clean.

Prof. J. L. Thomas, instructor in
dairying at the agricultural college of
one of the greatest states in the Union,
says: "I have just completed a test of
your separator. The skimming is the
closest I have ever seen—just a trace
of fat. I believe the loss to be no greater
than one thousandth of one per cent."

That is one reason why you should
insist upon having the Tubular. Tub-
ulars are different, in every way, from
other separators, and every difference
is to your advantage. Write for cat-
alog S-250 and valuable free book,
"Business Dairying."

The Sharples Separator Co.,
West Chester, Pa.
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BERKSHIRE BOARS FANCY POULTRY

Pedigreed
Registered **HOLSTEIN and JERSEY BULLS**

Reliable Family Cows
Established 1876. Take advantage of our years of
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**VENADERA HERD
OF REGISTERED JERSEYS**

FOR SALE—RICHLY-BRED YOUNG
bulls from cow having High Official Year-
ly Records. Also a few heifer calves of
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GUY H. MILLER,

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**For Sale Our Herd Bull
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As we have dispersed our herd, except a few
heifers for home use, we are forced to offer for
sale this valuable sire. We will sell him at a low
price to a breeder who is in a position to give this
bull a chance to make a record.

Leffingwell Rancho, Inc., Whittier, Cal

Geo. C. Roeding, Fresno, Cal., breeder of

Thoroughbred Holstein Bulls and Heifers

Thoroughbred Berkshire Boars and Sows

Thoroughbred Poland China Swine

Black Minorca and Barred Rock Poultry

High Grade Stock of Best Strains.

Young Stock For Sale.

M. Bassett Hanford, Cal.

Live Stock and Dairy**BUILDING A SILO.**

THE silo may be placed within the
barn under the same roof. This
is the common practice in the
Eastern States. In California it is
usual to have only a milking
and feeding shed for cows. The barn
not existing except as the ranchman
told the tenderfoot: "Yes! Of course
you can sleep in the barn there it is
all outdoors with the sky for a roof." The
silo therefore we will consider as
an outdoor structure. The round silo
is now admitted to be the cheapest
and best, it is more durable as a build-
ing and the best conservator of the con-
tents. I will take it for granted that
this statement will be admitted and
not quote the figures of the Experi-
ment Stations on this matter.

Minnewawa Silos.

We have two silos: a round one
thirty-two feet high and twenty-six
feet in diameter, built in 1896. The
old silo, built in 1894 is a building
thirty-six by sixteen feet divided into
two pits, sixteen by sixteen feet and
twenty-six feet deep. The corners
are cut off so it makes the pits ir-
regular octagons. This shape is waste-
ful of the ensilage at the angles and
is much harder to pack solid. We
have abandoned its use and are going
to take off the sides and lower the
roof to make a shed for the cows to
lie under during the heat of the day.
We are waiting until the winter when
the lumber will be damp, then the
boards can be carefully removed with
out splitting and will be useful for
fencing as they are all in sixteen-foot
lengths.

Silos in California are usually built
of wood, while in the East, brick, or
stone and lately concrete and hollow
block are being largely used. My per-
sonal experience has been with wood-
en silos, I am going to give that first
and the following description is the
actual way we proceeded. I had never
seen a silo before. We built the square
one and that was the only one I
knew about when we built the round
one. At that time builders in the
East were not selling specifications
and plans, all we had was a written
description and a picture of the com-
pleted building.

Site of the Silo.

In selecting the sight for the silo
there are several points to consider.
I would not have it directly in the
barnyards as the cows make the
ground around it foul in the muddy
weather. Our square silo is directly
in the barnyard, while the round one
is across the fence from the feeding
yards. Plan to have an overhead
trolley to carry the feed to the man-
gers. Trolleys to handle manure, hay
and silage around the barns must
come more and more into use, it is
well to plan for these as well as for
trolleys to carry the milk to the sepa-
rator from the barn. When I began
farming in the San Joaquin Valley we
all grew wheat as we lacked laborers.
Then came the Chinese and by their
labor the vines were planted and
handled. We have never had in the
last twenty-one years, except during
the two years of the greatest financial
depression, white men enough to do
more than handle the teams.

Improved Machinery.

In the dairy we can lessen the hand
work and expense greatly by

Veterinary Instruments, Black Leg and
Anthrax Cure, Milk Fever Outfits... See
O. J. Weber Co., 555-557 S. Los Angeles
street, Los Angeles.

using machinery rather than doing
the work, by grunts, and sheer force
and awkwardness. This is too old-
fashioned in this day of rapid move-
ment. Even the cows must take on
a more rapid motion. The trolley,
therefore, with the milking machine,
and the separators all mean increased
efficiency and are bringing dairy
work into the lines of a skilled occu-
pation. The men used should be
those of brains, paid better and men
that will use their brain to help us.

Size of Silo.

It is estimated that a cow will eat
in two hundred days, four tons of
silage, therefore a cow may be said
to eat about five surface feet from a
silo thirty feet deep. I have found,
however, that it is much better to
keep the cows in cool shady places
during the heat of the summer time
and feed silage rather than pasture.
Then it will require six feet rather
than five feet per cow. True our silos
are not straight corn, but have lawn
clippings and first crop of foxtail al-
falfa in them. This is not always
good feed and the cows are wise
enough only to eat the best.

One Hundred Cows.

A silo to feed a hundred cows should
be twenty-six feet in diameter and
thirty two feet deep. Two such silos
will easily keep two hundred cows and
the calves in silage by the year. In
the larger silos the loss is less from
outside waste and there is only one
top layer to be thrown into the ma-
nure pile. A fifty-cow silo should be
twenty feet in diameter and thirty
feet deep. Two of this medium size
are often better for the hundred-cow
dairy than having all the feed put
into a large silo; for while there is the
loss from the greater surface, there
are often times when the crops are
not large enough to completely fill a
large silo, that makes it worth while
to have a smaller one. To make good
silage the mass must be great enough
to give depth to produce pressure and
raise the heat and to exclude the air.

Drainage of the Ground.

The ground on which the silo stands
must be high enough to avoid stand-
ing water after sharp showers. If the
ground is high enough sometimes it
may be well to make the silo pit six
feet into the ground. If there are no
rats the silo that stands above ground
need not have a cemented floor. We
have not found it necessary to have
cemented floors in either of our silos
so far. The earth is a little mounded
up on the inside keeping the lowest
portion higher than the outside
ground. Inside the earth is highest
at the walls of the silo and gently
slopes to the center. If the floor is
cemented then a drain should be pro-
vided. A two-inch tile answers the
purpose. Carry it out through the
foundation wall giving a good slope
and cover the end with strong wire
netting to keep the gophers out. When
the ground is sandy and is not ce-
mented it readily absorbs the moist-
ure from the silage. There may be
soils in California too close in tex-
ture to take up the moisture, these
should have a drain.

Foundations.

It is foolish to think of standing a
silo directly on the ground as the
moisture rising and meeting the mois-
ture from the silage will make a fine
bed for molds and decay. The wooden

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MILK STRAIN

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July 18, 1907.

portions should be kept well clear of the ground, standing on a good brick or stone foundation. After selecting the ground for the silo drive a crowbar firmly down in the center, slip over it the looped end of a rope. The loop should be large enough to turn freely. Then measure off half the diameter of the silo on the rope and tie at the end a sharp strong stick. Now walk around the circle and marking it off with the stick held by the right rope. Dig out a trench wide enough for a wall three bricks wide. Be careful to keep it in a perfect circle. Use the stick held by the rope and crowbar to run around the end of the bricks as they are laid to keep the circle true. This circle must be always an exact number of feet as the studs must be a foot apart, and the sills and plates are cut two feet. The measure is made on the outside lines of the circumference. Take a scantling the width of the sills and nail at each end a block of the same heights about two feet. Use this first in the trench then for brick work and on the brick wall to keep the level, by laying the ordinary spirit level along on the scantling the brick work can be kept reasonably level, and little faults are easily corrected by using more or less cement.

THE FUNCTION OF HOG'S LEGS.

The hog's legs perform a function not known to any other animal, and that is an escape pipe or pipes for the discharge of waste matter or sweat not used in the economy of the body. These escape pipes are situated upon the inside of the legs, above and below the knees in the fore legs and above the gamble joints in the hind legs, but in the latter they are very small, and the functions are light. Upon the inside of the fore legs they are always active, so that moisture is always there about and below these orifices or ducts in the healthy hog. The holes in the legs and breathing in the hog are his principal and only means of ejecting an excess of heat above normal, and when very warm the hog will open the mouth and breathe through that channel as well as the nostrils.

The horse can perspire through all the pores of its body, such as a man, and cattle do the same to a limited extent, but the hog never. His escape valves are confined to the orifices upon the inside of his legs. People often wonder why it is that the hog dies so suddenly when he runs rapidly or takes quick and violent exercise by fighting. But when you consider the few escape pipes, their small capacity and remoteness from the cavity where the heat is generated, the wonder is that he does not die quickly when overheated.

HOLSTEIN TRANSFERS IN CALIFORNIA.

Cows.—Berretta of Riverside, Chas. D. Pierce to Geo. Hewlett, San Francisco.

Empress of Riverside, Chas. D. Pierce to Geo. Hewlett, San Francisco.

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Helena Petroona Modjeska, R. M. Hotaling to Walter Mitchell, Visalia.

Legend Dora Thorn, R. M. Hotaling to E. O. Larkin, Visalia.

Margetta De Kol, M. E. Sherman to M. O. Wyatt, Winters.

Bulls.—Artis Dairy Prince, Read and Bennett to A. H. Carrier, Imperial.

Starlight De Kol, M. Eshleman Sherman to O. M. Wyatt, Winters.

Bulls.—Belle Juliet Korndyke of Riverside, F. F. Pellissien to Chas. D. Pierce, San Francisco.

SELECTING A BOAR.

A great many farmers and breeders make a great mistake in selecting the breeding boar. They wait until they need the boar for service, and then, late in the season open correspondence with several breeders for a boar large enough for service. When the breeder receives such inquiries all the best pigs have been sold and only the culls remain to select from. The result is a boar is ordered, and does not prove satisfactory. The buyer can do no better and the inferior boar is used in the herd and a lot of inferior pigs is the result. The proper way to insure the best results is to select the breeding boar when a pig. The formation of the sows to be bred should be carefully studied, and the boar should be selected to counteract and improve any defect in the sows. If the sows or a considerable portion of them should be a little deficient in back, then a boar with extra good back should be selected. Breeding is a science and requires a great deal of study to make the proper crosses.

Every breeder should become familiar with the standard of the breeds in which he is interested, so as to be able to detect any defect in the breeding animals, and learn to discriminate between the essential points and the non-essential. For instance, some tenderfoot breeders would not use a boar in their herd that was not marked exactly perfect to a hair. This is the color craze. A great many new breeders of Berkshires are liable to be led off into this fool craze, and sustain heavy loss in consequence. It is very desirable to have a boar well marked, but not essential. A good breeder will never sacrifice a good back or a ham for a black foot or a black tail or a small white spot on body.

Did you ever stop to figure out how much you lose by not knowing exactly what your cows are doing from day to day? Do you ever sit down and study hard as to why your herd gave 300 pounds of milk one night and morning and only 273 pounds the second night and morning following? Did you ever add a fresh cow to your herd and find at the end of a week that you were getting only as much milk as you were before the fresh cow was added, though you had fully counted upon maintaining the original flow and being better off by just one cow's milk? How often were you successful in getting the herd back to its former flow under these circumstances?

Be as clean in caring for the stable as you are in caring for the pails and cans.

Veterinary Instruments, Black Leg and Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

High-Grade Farm Wagons



GOOD wagons are absolutely necessary on the farm.

Remember that paint may hide a multitude of deficiencies—a lot of poor materials, particularly poor wood stock—and that the well painted but cheap and poorly constructed wagon may not be a bargain at any price. Break-downs are expensive, repairs cause delay, and in the end the cheap wagon will prove a most expensive one. Iron of the best quality; wood stock of desired toughness, thoroughly seasoned, are required for the big loads, rough roads, ruts, slips and slides that try the farm wagon.

The iron and wood must be put together properly to give the greatest durability.

That's not all; this excellence of material and building must be combined with light running qualities to make the completely successful farm wagon.

All these requirements you will find in the International Harvester Company line of farm wagons.

The Weber for more than fifty years has been among the best and most favorably known of America's farm wagons. The most carefully selected and sea-

soned materials with superior construction in every part make it suit every condition of wagon service.

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They are the only steel constructed farm wagon gears on the market. These wagons are built to last. Almost any wagon can be guaranteed for a year, but the point that should always be considered is how many years is the wagon likely to do good service? Think it over. It makes little difference which of these wagons you buy. You will make sure of wagon value and wagon satisfaction in any event. You simply can't buy any thing better at any price.

Call on the local agent or write nearest general agency for illustrated pamphlet, describing the wagon you prefer.

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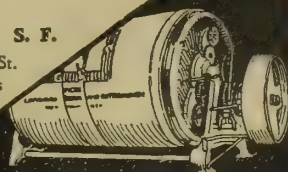
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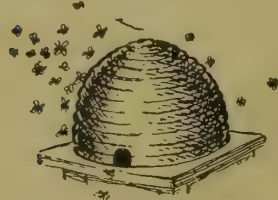
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The Ornamental Garden

WHY SO STINGY WITH THAT FRONT YARD.

ARE YOU one of those unfortunate mortals who cannot see any special beauty in well grown specimens of flowering or ornamental plants? Who would as soon, in fact, in some cases rather, see a row of cabbages in the front yard as anything? If so, we commend the following, from Wallace's Farmer, to your consideration:

A farmer built a fine house and filled it with good furniture. He had a splendid yard, an ideal place to fix up. He could have made a fine park of it so it would have been equal to a rich man's estate in a city suburb. He consulted a nurseryman, and he made a very low estimate of forty dollars to begin with. The farmer threw up his hands in horror at such a "hold up," as he called it.

Hot Shot.

When he was building he spared no expense, and when he came to furnishings he was generous. There was a big lookingglass that cost twenty-five dollars; a rug on the parlor floor cost fifty dollars. But the moment he stepped out of doors where there was room to do something, then he balked. He wanted five-cent shrubs and flowers to match that fifty dollar rug, and a tree that cost over twenty-five cents was an outrage. Mr. Nurseryman opened up on him with hot shot, but for safety told him he had better hide when the fool-killer came that way. Said he: "You put \$4000 in your house. That is all right. You could afford it. You put in \$1000 worth of furniture. That was good. But when you step out in to God's great parlor of all out doors and we want you to have your yard decent and match His rainbows and sunsets, His fields of green, His lakes and wild flowers, then you get on that stingy streak. What do you mean by it? Here are two acres you have kept for your hog pasture and dilapidated machinery, and your cattle yard comes up to the house, and you prefer to raise flies instead of flowers. Don't you know that from the moment you enter your house it depreciates in value? Use that furniture a year and it becomes second-hand. Out in that yard you plant a Colorado Blue spruce and in a few years it will be worth \$100. Plant some majestic tree lilacs that in June will wear crowns of glory; put in some large beds of peonies and phlox and other hardy perennials, plant \$100 worth of choice stock, and in ten years this farm would sell for \$1500 more than it would with this yard as it now is. Plant in masses. Don't be so stingy."

"Well," replied the farmer, "I am not interested in these things. My hogs and cattle are good enough for me."

From Earth's Center to Stars.

"Well," was the reply, "you are just insulting God. He trusted you with this piece of land, which reaches to the center of the earth and up to the stars. He has a pattern of what this place might be. You just get the pattern and work up to it. Standing all around you are forms of beauty waiting to come in and glorify your home, and you won't let them come. You profess to be a Christian. Did you ever think what you must endure hereafter when you reach 'Sweet fields beyond the swelling flood and

never withering flowers?' Oh, how lonesome you will be when you don't find any Berkshires or Short-horns up there. Don't you know you are doomed to be imprisoned with beauty forever? You can't get out sight of it. The great city is full of it, and if you look out, the whole universe is planned like an immense flower garden. All the rays of light are used up in the star mantles, and the mighty milky way will be as tremendous fields of radiant ever-blooming flowers. Now, you might as well get acquainted with beauty down here and have your home at least slightly suggestive of the home over there."

Allee Samee Overalls.

Well, that hit the man a staggering blow. He didn't know what to say. It was hard for him to reconstruct his life in a moment. The nurseryman added: "You are doing well; you have made a good beginning indoors—you are not as bad in the house as you seem out of doors. Only don't have one suit of sentiment for the house and another for outside which you put on as you do your old overalls."

It Soaked.

"Well, I'll think it over. Call again next week. I'll let this soak in." And it soaked in. When his friend called again he could hardly keep up with him. He wanted this thing and that thing, and before the nurseryman left he planned for a group of fifty different kinds of lilacs, which are wonderful in diversity of foliage as well as blossom, reaching from early spring till the first of July in their time of blooming. He had another group of spinas—twenty kinds; another of twenty kinds of syringas, besides a group of the glorious snowball family. He ordered flowers galore, not stingy little clumps, but masses. The man seemed suddenly converted to a love of the beautiful. And as time went by he found farm work dull and irksome, and he spent most of his time in that front yard among the glories of the floral kingdom—a new land seemed to open before him. He had been a stranger to his own farm; now he was getting acquainted with it. His front yard was a mine full of precious things—the very earth jeweled with beauty.

TRAILING PLANTS.

All plants which trail on the ground or grow sideways, like verbenas, phlox and ivy-leaved geraniums, must be trained or tied down to fill the more open spaces they are expected to cover. This operation is called "pegging down" by the professional, because in former days the trailing was effected by little forked pegs; but there are many ways of pegging without the use of pegs at all; and one of the simplest which I have seen a gardener perform with verbenas is to take hold of a flower truss in bud, make a hole with a stick, or with two forefingers and poke the truss down in it. The shoot is then held in the right position at once, and without knowing how the thing was done, no one could make out that the shoot did not grow naturally in that position from the first.

Those who would prefer to adopt more modern methods must purchase the pins now sold for the purpose.—Farm Stock Journal.

Cultivate laughing and see how the children's dispositions will improve.

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The Vegetable Garden

STAKING TOMATOES.

TOMATOES can be staked or racks provided in the following manner: Take a hoop of a nail keg and tack it to two stakes which have been driven into the ground near the plant so the hoops will stand about eight inches from the ground and completely encircle the plant. As the plant grows draw the branches up over the hoop and when it has reached its growth the hoop will support the vine so none of the fruit will lie on the ground.

Another Support.

Try using a single stake for tomato plants if trellis or other support is inconvenient for each plant. Simply drive a stout stake about four feet long into the ground and set out a tomato plant at each stake. Nip off the bottom branches and allow the plant to grow so as to make its branches near the top, which will protect the fruit from rotting.

GROWING SWEET POTATOES.

Sweet potatoes may be grown on nearly any good upland soil, but warm sandy lands, if fertile, produce the most. A good quality of gravelly ridge land is very suitable. Do not select wet bottom lands. Unless the land is already in first-class condition, it may be improved by working in well-rotted manure. To every acre of this add about 640 pounds of acid phosphate, 260 pounds nitrate of soda and two pounds sulphate of potash, well mixed before you apply. On some lands dried blood and cotton-seed meal are preferred to nitrate of soda. Don't fail to get in at least some potash.

FIGHTING MELON APHIS.

Fred K. Maskew, deputy State Commissioner of Horticulture, was here last week distributing 100,000 lady bugs to battle with the destructive and pesky aphis, says the Coachella News. The visit was the result of an appeal from the growers' meeting a week or so ago to the bureau for assistance in controlling the aphis. In 24 hours after this appeal was wired to the commission the bugs were coming for the battle and in less than a week Mr. Maskew was on the ground. These 137,500 bugs represent a very large force of aphis eaters as they multiply very rapidly.

GARDEN WHEEL HOES.

According to an experienced gardener, there are many styles of wheel hoes, and all of them are good and will pay if well used. Where one has long rows, say a hundred feet or more, it is all right to use a horse hoe or small garden plow. In twenty or thirty minutes one can go over a large garden with one of these and do good work. We use one of these plows after a rain and then in a day or two go up and down the rows with an ordinary garden rake or the toothed hoe spoken of, and, in this way the ground is kept in fine tilth. Sweet corn planted any time during July will make excellent roasting ears.

The first tomato known to have come to the United States was brought to Philadelphia in 1798 from San Domingo. It was a curiosity only, not being regarded edible.

The demand for blackberries is more rapidly increasing than for any other small fruits at the present time, and they may be grown profitably on a great variety of soils.

GOOD GARDEN TOOLS.

Good tools are a necessity in garden work, as in most other occupations. We last year got hold of a new style of hand hoe, or rather a cross between a hoe and a rake, that we like very well. It has eight or ten teeth that are arranged in a sort of spring harrow form, and it can be drawn down between the rows and leaves the ground in fine shape. Of course it must be used before the ground gets hard, but in a day or two after every rain, just as the ground gets in good working shape, a lot of work can be done with this tool in a few minutes.

Among the new varieties of lettuce tested during the last five years, the Wonderful seems to merit its name because of its capacity to produce large cabbagelike heads, lasting well into hot weather under most ordinary culture. Some of the heads grow considerably over two pounds in weight, and are of excellent quality. This is the most vigorous and reliable garden lettuce we have yet found. There are a legion of varieties, many having general merit, while others seem only adapted for special conditions and tastes. For an early, loose-leaved kind, there is none superior to Blackseeded Simpson.

Originating new varieties of potatoes from the seed boll is a matter of great importance to the potato industry. It frequently happens that not one out of many thousands will prove of any great value. All the labor of growing and proving these seedlings is lost, and when the originator does get a really valuable seedling potato, he has to put the price high enough to cover the cost of all expense of the thousands of worthless ones he has had to bring forth to find the one of real value.

Purple raspberries are intermediate in character between red raspberries and black raspberries. They are supposed to be hybrids between these two species. They show all gradations in habit between the two parent types, some being propagated by suckers, others by tips, and still others by either tips or suckers. The color of the fruit is usually a light or dark purple.

There are several things that one may plant in the garden that do not need to be planted every year; in fact, some of them when once planted are apt to stay in good, healthy condition for many years. There is the rhubarb plant, for instance. It is up and growing in the early days of spring, and before you are aware of it some day you find a dish of sauce or a pieplant pie on the table.

Celery growing is one of the most desirable occupations for persons who desire to live outdoor life. There is something so clean and appetizing about celery, while it is growing, that renders its culture a source of refined employment. There is, perhaps, no other line of gardening that will give so prompt returns or prove so satisfactory as a source of extra income.

Common salt sprinkled on cabbage leaves will kill off worms and destroy their eggs as well. The salt application will have to be renewed after every rain. This is a simple and effective remedy, and it does not injure the plants either.

PARCELS POST.

It is exasperating to read, as often we must, of a parcels post treaty with some foreign country. The last instance is such a treaty with Ecuador, which means that the citizens of that insignificant little country may send packages by mail to any part of the United States for from one-third to one-quarter as much as it would cost to mail the same weight 10 miles in our country. We now have a parcels post treaty with many foreign countries, but there is no disposition to give our own people a valuable postal facility that is given to foreigners almost without the asking. It is strange that our people rest so easily under this neglect of a very important interest.

BE EASY.

The Southwestern Farmer hits off the "Ignorant farmer" grind as follows:

"If there is anything that makes me want to cuss it is to hear some pin-headed bundle of balloon juice talk about the 'poor ignorant farmer.' It's a wonder to me somebody don't land on these insects with a hoe handle. If you will investigate these 'sympathizers' you will find that they have made a failure of everything they ever tried to do. A man who thinks the farmers of Texas are either 'poor' or 'ignorant' hasn't got sense enough to do anything but talk rot."

Garden seeds are slow to germinate and the weeds are quickly up; and then the struggle begins, and it is only the perserving that come out victorious in the autumn days with an abundant harvest as the result of their toil.

It is healthful to get out and delve in the soil, and would be a great boon if we carried it on to even a greater extent.

There is always a sense of satisfaction in hearing abused those one dislikes.



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Irrigation and Forestry

IRRIGATION IN A HUMID STATE.

FOR many years those who lived in a humid state with forty to sixty inches of rainfall—laughed and jibed at the poor fellows who were compelled to irrigate to keep from starving. When the National Irrigation Congress, at one of its meetings, swung out the banner, "Irrigation is Cheaper than Rain," here was a united howl of derision heard all over the East and the South. And they continued to pity the poor devils that had to irrigate.

However, the irrigation propaganda was spread all over the land by newspaper and magazine articles, telling of the vast benefits to be derived from irrigation. How it was a complete and absolute insurance against drouth. Still the people did not believe what they were told. But the persistency of the educational propaganda began to set some, who had more brains and more energy than the ordinary run, to thinking and investigating.

Then at last government documents on irrigation began to come from the press, clothed with the authority of the government officials, who are strictly men of science, and whose deductions are made up from hard, stern, cold facts. Then the humid land farmer began to think, seriously and earnestly. Then he proposed to try an experiment or so. He did, and was amazed at the result. Here is what one man is reported to have done down in wet, humid Florida, as told by the Kissimmee Valley Gazette:

R. P. Hansen, the Cypress Island trucker, continues to ship beans, beets and other vegetables. Mr. Hansen has already shipped over four hundred crates of beans for which he gets \$12.50 per crate delivered at the express office here and reports his vines full of bloom preparatory to putting on a second crop. From one third of an acre he has sold about three hundred crates of beets at \$1 per crate, and has some still left for shipment. Mr. Hansen's crop was raised entirely by irrigation, as there has not been sufficient rain to wet the ground since it was planted.—Redlands Citigraph.

HOW THE NATIONAL FORESTS SERVE THE PUBLIC.

"The use of the National Forests," a publication just printed by the Department of Agriculture, is a brief, clear manual for public information as to the forest policy of the National Government.

It is too true, as the short preface to the public says, that "many people do not know what National Forests are. Others may have heard much about them, but have no idea of their true purpose and use." It is the object of this publication to explain just what the National Forests mean, what they are for, and how to use them.

In the first place, it is explained how the Forests are created and how their boundaries are drawn. Next, their direct use and value are shown from the point of view of the homeseeker, the prospector and miner, the user of timber, the user of the range, the user of water, and other users of Forest Resources. Third, it is shown how the Forests are intended for

use for the production of usable products, and for the establishment and maintenance of homes; how on all of them the timber is protected from fire, the water flow is kept steady, the forage on the range is increased and guarded from abuse; and how, in addition, they serve as great public playgrounds and as breeding places and refuges for game. Finally, the management of the National Forests is described.

Here it is that the great usefulness of the Forests is brought out most clearly and strikingly; for the Forests are managed by the people in their own interests, and every means is used to meet the desires and wants of a Forest users half way by dealing with them in the main directly on the ground and in all cases with the utmost practicable dispatch and freedom from red tape.

In a word, the special interest of this manual lies in its showing that the Forest policy of the Government, both in principle and in practice, for the benefit of the ordinary man for the benefit of every citizen equally. There is still a tendency to think of the National Forests as "preserves" closed to use, and to leave the public lands exposed to unregulated individual exploitation. When these misapprehensions still prevail "The Use of the National Forests" will go far to correct them.

The book is written by Mr. Frederick E. Olmstead, whose intimate knowledge of conditions in the West and the policy under which the National Forests are managed especially fits him to deal with the subject.

SAWMILL STATISTICS.

A compilation of the reports received from over 10,000 sawmills in the United States upon their operations in 1905 shows the proportion of lumber kiln-dried and the proportion surfaced, the amount of slash wood sold and the proportion of log cut on lands belonging to the sawmill operators. No figures along these lines are available for New York, and none are given for several of the States in which the cut was very small.

The States in which the large proportion of lumber is kiln-dried are South Carolina, with 51.3 per cent; North Carolina, with 36.5 per cent; Florida, with 35.1 per cent; Alabama, with 34.8 per cent; and Georgia, with 30.6 per cent. In other States the amount is less than 30 per cent. Altogether, 1642 mills reported the use of dry kilns.

A large amount of the pine cut in the South is kiln-dried in order to reduce its shipping weight. Kiln-drying is practiced to a less extent in the Rocky Mountain and Pacific Coast States, and very little lumber is kiln-dried by the sawmill operators in the hardwood region or where the cut is principally by portable mills. For the country as a whole about 5 per cent of the lumber cut is kiln-dried at the mill.

A much larger proportion of the cut is surfaced at the mills than is kiln-dried. Of the mills reporting, more than 3900 surfaced a portion of the cut. For the country as a whole, at least 35 per cent is surfaced before it is shipped. In this respect Iowa leads, with 77.2 per cent surfaced; but this is because of the lumber cut in that State is in a few big mills along the Mississippi which operate exclusively on Northern pine. As to the States in which the larger proportion of the cut is surfaced at the sawmill are Texas, with 71.7 per cent; Louisiana, with 68 per cent; Idaho, 59.4 per cent; Montana, 55.2 per cent; and Arkansas, with 50.6 per cent. In all the other States less than half the cut is surfaced by the sawmill operators, and as in kiln-drying, a relatively small proportion of the total cut is surfaced in the hardwood regions.

With the Citrus Growers

PRUNING THE ORANGE.

WE HAVE been asked to give directions for pruning the orange. This has been discussed quite frequently in the Cultivator and there are few, if any, additions or changes to be made in the pruning of the orange.

Now is the time to do this work on Navel trees where severe cutting out of the centers is not contemplated. The proper time to do the yearly pruning that is systematically followed, is immediately after the fruit is picked. Pruning of Valencias will come later in the summer.

Formerly Condemned.

Not many years ago, pruning the orange tree was condemned almost universally. Growers who were considered the best authority grew poetical in their protests against pruning and no doubt their convictions were strengthened by the thought that they were inspired to give a solemn warning against a dangerous practice.

During past seasons of heavy crops nearly every orange grower had to prop his trees to keep them from breaking down. Few props have been used in recent years owing to light crops, but we are acquainted with one grower who has succeeded in raising year after year ten to twelve packed boxes of oranges per tree and never uses props. The heavy crops are partly due to the method of pruning, and his being able to dispense with props is entirely due to pruning. This is surely a strong argument in favor of the practice.

Some Suggestions.

All branches that are trailing on the ground should be removed or cut back so that they will not be borne to the ground with a load of fruit. Fruit that strikes the ground or rests on it is unfit for market except as low grade. Branches that project beyond the general outline of the top should be cut back some. It is often advised to remove such branches entirely, but we do not think it well to do so. These branches come in the process of natural enlargement of the tree, and will not continue to grow to the exclusion of other parts of the tree. Other branches will make a like growth and with judicious pruning of these branches, so as to strengthen them without bringing them back to a level with the surface of the tree, the size of the tree is more rapidly increased than when confined to the finer and more numerous growth that annually covers the whole surface of the tree. These strong leaders will form a more open frame and one which will be more easily pruned in the future, than will the more numerous and finer growth.

In cutting the leaders back, remove the strongest branch, cutting it back to a fork. This leaves no stub and "suckers" will not start. This will make a rigid frame that the winds will not sway and heavy crops will not break down even when no props are used. This method is not advised from a theoretical standpoint, but has been proven to be the best way known by several of the most successful growers. So much for "bending the twig in the way it should grow."

Cut Out Dead Twigs.

Mature trees that have never been pruned, or not for several years, are sure to be full of dead twigs in the center. There are to be found twigs in every stage of uselessness from those dead to those with a few

leaves and too weak to hold their blossoms. By going through the tree at this time of year all of such wood can be distinguished from bearing wood and can be removed. Many branches will be strong and vigorous and have no fruit. These should be left, and the weak and slender barren twigs and small branches should be removed. All branches that are in a dense situation and full of dead twigs should be cut out.

Never leave a small branch on a heavy stub in the interior of the tree. It will soon die and will have to be cut out again—cut such limbs close up to the main branch. Keep in mind that you want to get some light into the center of the tree, but not enough to allow you to see through them from a distance of a few feet. There is a happy medium between this state and the dense dark center. If this medium condition is attained, the trees will, other things being equal, produce fruit on the inside. If the tree is made too open the fruit will become lighter in color. Every grower knows that fruit grown in the shadiest part is the best.

Don't be Discouraged.

Any one who tries to follow directions in pruning will be discouraged at first. They will have in mind some particular condition and will not find it as they expect. No two trees are alike and even the most experienced pruner will stop and study his first few trees at the beginning of each season and will have more difficulty with them than all of the balance. The novice will be afraid of cutting too much and will in most cases not cut enough. It is better to cut too much out than too little. In the former case the tree will right itself and in the latter it will not.

ORANGE CULTURE IN FLORIDA.

A view of the citrus conditions in Florida is afforded by the following, from the Tampa Times:

There is nothing more certain than that the cloud under which the cultivation of the orange just now lies in the public mind is undeserved. It is true there have been some cold nips, some dry spells, some groves neglected and some utterly abandoned.—But there are many groves which have been skillfully and painstakingly attended to and which are paying bigger profits than ever. The problem needs investigation and discussion. We venture as a starter that the same energy and trouble given to orange culture as to the average business in which men engage would result in an almost universal success.

If a man will find a suitable location, set his trees right, cultivate and fertilize them properly, attend to them at every stage of their growth, supply them with water when they need it, he is as sure to succeed and make money as in any other business in the world. There are reasons for believing that the lake regions of Florida possess advantages for orange growing which ought to be taken into consideration. They furnish a larger proportion of the hammock land which gives a smooth skin, brilliant coloring and early ripening. They afford a better protection in winter, by reason of the thicket windbreaks and the modifications of the cold by the influence of the waters. These are sufficient to make the difference

very often between profit and loss. Less danger from cold, less fertilizer necessary, a more beautiful, saleable and earlier ripening fruit—these are the advantages claimed by the people who grow oranges in the lake region and in the vicinity of large running streams.

Of one thing we are very well assured, and it is that careful selection of land and varieties, abundance of water in the dry season, regular and careful cultivation, the application in plenty of the right kinds of fertilizer, careful disposition of the product—in short, the same careful handling of the business a man gives to selling goods or sawing lumber—will restore orange growing to the rank of the most pleasant and profitable industry in the State of Florida. This is a view of the subject which should be vigorously pushed in this State.

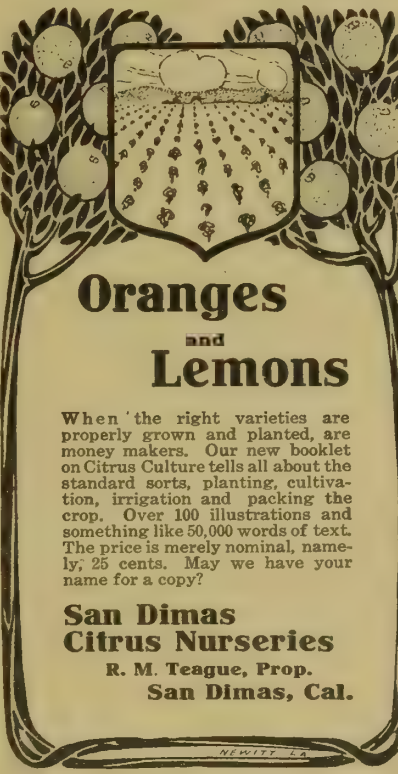
FLORIDA ORANGE GROWERS GETTING WISE.

A meeting of representative orange growers was held at Tampa on Thursday of last week, when an organization was partially perfected. Mr. E. F. Sperry, of Orlando, was elected president, and Mr. E. S. Anderson, of Auburndale, secretary, and a committee appointed to prepare a charter and perfect the organization. The capital stock is to consist of \$10,000 divided into shares of \$5 each.

The purposes of the organization were explained by Mr. J. Varn, of Bradentown, who declared that though other industries had organized for their mutual protection and advancement, the orange growers of Florida were without proper combination and he urged them to come together on the matter, though they are Democrats, Republicans or of other parties. Perfect an organization, call it what you may, trust, if you please to so name it, but so effective that it will protect the growers from unjust competition, commission men's oppressions, railroad overcharges and delays, and the kindred ills which the orange growers of Florida have ever suffered. He

claimed that if the growers would unite in a stock company or corporation with even a goodly sized minority of the orange men in it at the beginning, it would prove of vast benefit to the grove growers and soon enlist the entire orange growing interest of the State into so effective an organization as to protect it and market the crop with profit.—Florida Agriculturist.

There is a difference between pruning and cutting off limbs. Pruning generally helps trees, but cutting, as it is done by the average attendant, is no better than butchery. Read a few reliable books on pruning, then visit a few successful orchardists and how they perform the job before you attempt it.



Oranges and Lemons

When the right varieties are properly grown and planted, are money makers. Our new booklet on Citrus Culture tells all about the standard sorts, planting, cultivation, irrigation and packing the crop. Over 100 illustrations and something like 50,000 words of text. The price is merely nominal, namely, 25 cents. May we have your name for a copy?

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ORANGE SEED BED STOCK
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INDEX.

Call has often been made upon the Cultivator for an index to its valuable contributions. The value of the paper will be largely enhanced by the index. Hereafter a complete resume will be made to each volume.

There are two volumes each year, ending with the last number in June and December. In this issue is a complete index of all articles appearing from January to June. This should have appeared in the last of June issue but it was impossible at that time. Those who have kept a file of the C. C. may cut out the index and attach to the last of the former volume.

In the issue of Dec. 26 will appear another for the volume now running. Subscribers not formerly filing the Cultivator may now find value in the old papers. They contain a vast fund of information.

CO-OPERATIVE DIVIDEND.

That cooperation among farmers may be productive of very desirable results is evidenced by the farmers cooperative association of Rockwell, Iowa which has just declared a dividend of 41 per cent on its capital stock for the year. We do not know of any better dividend—except Standard Oil and Steel—earned by corporations anywhere, and it goes to show what farmers can do when they organize for a specific purpose. The Cultivator has always contended that cooperation among farmers, when intelligently directed, may be made productive of excellent results. Recently there came to our notice a co-operative movement among hay and grain growers in the San Joaquin Valley, which has resulted in bringing

the price of hay in the field to a higher figure than has been paid for several years past. The real truth is that for the first time in the history of our farming community producers are able to name their own figures for their products, and the result will be greater increased bank accounts for those who work under the cooperative system.

HEALTH CONDITIONS ON THE FARM.

Several persons have complained to us within the past week of indisposition. In each case he was a farmer who so complained. This seems a little unusual, for generally the farmer is about the healthiest member of society. In casting around for a cause of the sickness mentioned, we find that sanitary conditions are at fault. The common swill barrel and swill pail, which invite and create multitudes of microbes and bacteria, is one element of disease. Who has not seen these receptacles in hot weather with swarms of flies buzzing about them, and the air fairly reeking with the combined odors of decaying vegetation, sour milk and old dishwater, and yet their contents were unhesitatingly fed to hogs, expecting that thrift and growth would result. What was often actual consequence? A siege of hog cholera which the farmer usually attributed to "a streak of bad luck," but which could easily have been traced to the foul slop which the poor hogs were compelled to drink.

It is true, we do not have these nuisances in as great numbers as prevail in the East, but still the nuisance is present, and so long as it is in evidence so long will our chickens have bowel trouble and our hogs diarrhoea. Not only our animals, but members of the family as well.

It is a well-settled fact among physicians that flies carry bacteria, or germs on their feet, they feed from the swill barrel and the swill pail and carry away germs, hatched in the barrel or pail, to the house, where they drop them on what ever substance they alight. If taken into the stomach these germs produce bacteria, and these bacteria cause forms of sickness in the family.

Another fruitful source of disease in the family is the dirty cellar. If it has been the receptacle of vegetables during the winter and has not been thoroughly cleaned, and all decaying matter removed, it will throw off injurious gases and in time produce sickness. Decaying vegetables are unsanitary in any cellar and should be removed, the inclosure treated to a wash of sulphur and lime and the floor well cleaned. Children may, and often do contract throat trouble from the foul cellar. If the farmer expects health in his family he must enter on a campaign of cleanliness and put his premises in sanitary condition and consequent freedom from disease.

This campaign of sanitation can well be directed against many existing evils, might first be confined to an attack on the old-time "slop barrel" and the "swill pail," both unmitigated nuisances if not worse.

After these, then the purifying of the cellar, and the barnyard, cleaning the drinking fountains, of whatever source, thereby striking at the fruitful cause of many of the diseases which afflict the family and the stock during the summer months.

WALNUT LITIGATION.

The decision lately rendered by Judge Wellborn against the walnut growers, in the case of Anderson-Barngrover Co., vs. the Fullerton Walnut Growers Association for damages to the amount of \$23,000.00, is the result of a suit begun some four or five years ago.

Anderson-Barngrover Co. are the assignees of a patent obtained by Daniel Farrell for a method of bleaching walnuts by the use of a combination of chloride of lime and sal soda together with an acid which the patentee stated was preferably acetic acid as found in vinegar.

The Walnut Growers contended that since chloride of lime had been in use for bleaching, either alone or in combination with sal soda for at least one hundred years, and that all chemists knew that the addition of any acid would liberate the chlorine more rapidly and consequently cause more rapid bleaching, that there could be no valid patent on the process, moreover the application was rejected by the Patent Office, the application amended and again rejected until finally a patent

was allowed on the eighth application. It is likely there will be an appeal from the decision and as there are other suits pending it may be several years before a conclusion is arrived at.

In the meantime the associations have abandoned the Farrell process and all but one are using a chloride method which is said to be cheaper as well as more convenient.

KANSAS LEADS.

Kansas has been the originator of political reforms in the past and now she is to be the progenitor of a reform in school curriculum. If we are to credit the report which comes from the Norton High School, Kansas has the first agricultural course, in its second year of operation, which any high school in this country has adopted.

The school authorities did not merely say, "We will establish a course in agriculture in the high school," but they went about to establish it in an intelligent manner. The superintendent and principal discussed the matter with the farmers. They appealed to Secretary Wilson of the national department and he promised aid. The State Agricultural college sent a teacher from its expert classes to tour the county and arouse interest in the school's departure. Implement firms of the town agreed to instruct pupils in the best use of modern machinery. Prizes of over \$100 were offered for grain judging, which has become a regular feature of the school. Of the 700 boys in the last year, 10 took this course and the present year the class is larger.

Here is an object lesson for California school authorities to study with care.

THE GRANGE.

The organization of the "Grange" dates from 1867, at which time the first meeting for practical promotion work was held in Washington. From a very humble beginning this great farmers' society has grown to a most formidable proportion, numbering, it is estimated in membership, one-twenty-fourth of the farmers of the United States. The Grange, known by the name Patrons of Husbandry, and Pomonas, in various states, has for its object systematic co-operation among farmers and horticulturists. Women were admitted to full membership and their influence has been specially potent for good in the life of the organization. The Grange seeks to secure among farmers intimate social relations and acquaintance with each other, for the advancement and elevation of their pursuits, with an appreciation and protection of their true interests. By such means may be accomplished that which exists throughout the country in all other avocations, and among all other classes—combined, co-operative association for individual improvement and common benefit.

Among the advantages which may be derived from the order as we understand, are systematic arrangements for procuring and disseminating, in the most expeditious manner, information relative to crops, demand and supply, prices, markets and transportation throughout the country; also for the purchase and exchange of stock, seeds and desired varieties of plants and trees, and for the purpose of procuring help at home or from abroad, and situations for persons seeking employment; also for ascertaining and testing the merits of newly invented farming implements and those not in general use, and for detecting and exposing those who are unworthy and for protecting, by all available means, the farming interests from fraud and deception and combinations of every kind.

In California the Grange is not so potent a factor in general as it might be, were its purposes better known and understood, but it is gaining ground steadily and will become more useful and influential as its merits appeal to individual farmers of the State. Live men like John Tuohy of Tulare, are doing much to advance the order in the estimation of the public.

Kansas now has more than 711,000 milk cows whose annual product amounts to more than \$17,000,000, and equals the sum total of all agricultural and horticultural products of the State with the single exceptions of corn and wheat.—Kansas Farmer.

News of Country Life in the Golden West

Southern California

Northern California

AGRICULTURE.

Alamitos sugar factory is now in full operation.

Riverside county claims to have a 1,000,000 hay crop this season.

Riverside has a new ordinance compelling the cleaning up of weeds.

Chiles growing about Anaheim are said to show up exceptionally good.

Thirty hogs went up as a result of field fire near Riverside last week.

Moreno and Alessandro valleys have about 10,000 acres of hay and grain this year.

Thermal claims to ripen Bermuda onions a full month ahead of the early Texas season.

Grow alfalfa and you will wear diamonds, is the claim of many papers in alfalfa sections.

Yucaipa valley and Banning have harvesters in full swing in their extensive grain fields.

A new machine for topping and pulling sugar beets is being tested at Alamitos sugar factory.

The demand for hunters tags has been so keen that the supply has been exhausted in many counties.

Horticultural Commissioners of Orange county are after owners of vacant lots for leaving them untidy.

Southern California is now relieved from its nine days heat and is having most livable and enjoyable weather.

The department at Washington has published a pamphlet descriptive of the pumping plants about the city of Pomona.

The Whittier, East Whittier and La Habra Vegetable Association claims the acreage of tomatoes near Whittier at 600. Good crop is promised.

Fifty thousand home seekers is claimed to be the total of the easterners arriving in California looking for permanent locations this past season.

El Centro, Imperial valley, has corn eleven feet high with young roasting ears each fourteen inches in length, which was planted the first week in April.

Crestmore, near Colton, has struck a fine flow of water at a depth of 500 feet. It is claimed that over 150 miners' inches is being given from one well.

Residents of Water Co. No 8 of Imperial valley have combined to protect their homes, which have largely been left vacant during the hot weather, from marauders.

The ending of the grain and cantaloupe season in the Imperial valley at practically the same time has caused an exodus which has greatly reduced the midsummer population of that section.

Indio, in the Colorado desert, has been looking at the prosperity of other communities to the east until now it is waking up and claims to be something of an agriculture center of its own.

H. W. Myers of Tropico planted this spring some tubers from the Ohio Early Rose. He has harvested one of the best specimens of this delicious potato we have ever eaten. The potato is well formed, a rich rose color and mealy. For a sandy soil it is admirable, surpassing even the Burbank in richness.

HORTICULTURE.

Corona has a total shipment of 1624 cars of citrus fruits.

The last car of oranges has been forwarded from Highlands.

Santa Ana gives a Mexican ten days in jail for swiping oranges.

Highlands reports a heavy setting of oranges for the coming crop.

The Osmun ranch at Whittier has just installed a \$4000 pumping plant.

This is a banner year for navel oranges is the claim of most fruit growers.

Five acres of apricots belonging to W. F. Whittier at Hemet brought \$1868.

The shortest apricot season in the history of the industry is claimed for this year.

Orange county has opened up a section to small fruit ranches at Newport mesa.

Peaches are in market at Hemet now, and the ranchers are being offered \$30 per ton.

The outlook for apples in Oak Glen indicates that the crop will be much short of last year.

Mr. Leffingwell owner of the large lemon ranch at Whittier spends his summer vacation in Japan.

Anaheim has a large acreage devoted to tomato culture which will be delivered in quantities to the cannery.

While too early to form opinion of the coming orange crop, Redland papers claim "June drop" is very light.

Redlands claims the record for prices of Valencias, one car of that fruit bringing \$1536 net to the packers.

R. & G. Dunn show the prices for apricots over the State of California is the greatest in the history of the industry.

A temporary failure of the ice factory in the Imperial valley almost resulted in great loss to melon shippers during the hot spell.

The cantaloupe crop of Imperial and Coachella valleys was quite badly reduced owing to the extreme hot weather coming near the end of the season.

Orange growers of Southern California are still rebelling at the method of distribution of cars by the Southern Pacific and Santa Fe railroad companies.

The interest of all dried fruit men is very keen over the destruction of the industry, thought by some to be the result of Secretary Wilson's construction of the Pure Food law.

The Anaheim Gazette claims that the navel orange has advanced Southern California twenty years and that if God could have made a better orange than the navel He never did.

Anaheim Water Company and Santa Ana irrigation Company have brought suit in San Bernarilino county to enjoin Riverside irrigators from illegal delivery of water from the Santa Ana river.

The hot weather combined with the ending of the harvest and cantaloupe crops at Imperial caused great concern to the friends of the new Imperial county, for fear the loss of voters may endanger the success of the vote.

AGRICULTURE.

Santa Ana poultry men have decided to hold a poultry show this fall.

Corcoran will harvest over a thousand acres of sugar beets this season.

Fresno claims that alfalfa hay will go to higher price than ever before this fall.

Petaluma has a stalk of corn planted on May 5th now measuring eight feet in height.

Tulare Lake now boasts of a gasoline launch to carry passengers from ranch to ranch.

Turlock claims that its creamery is realizing better prices than most others in the state.

Three dollars per sack is what the river potato growers are receiving for their crop this year.

Hanford is claimed to be the home of some magnificent horses which are now being bred in that section.

Foundation is being built for the new sugar factory at Corcoran, and the order has been placed for the machinery.

A field fire destroyed several buildings and large quantities of standing barley near Woodland, Yolo county, last week.

The Kaweah river is reported much higher than for several years at this date and is giving a longer irrigating season in consequence.

Contracts are already signed for 4000 acres of sugar beets in the Corcoran country to be delivered at the new sugar factory next season.

The State Polytechnic School at San Luis Obispo, was threatened with destruction in the field fire last week, but was finally saved.

The Pacific Sugar Company's plant at Visalia is being quite extensively improved this season, over \$75,000 being added to its equipment.

Mendocino county claims its sheep are in exceedingly fine condition for mutton; \$4 to \$4.50 a head for the good wethers are favorite figures.

The output of grain in Modesto section is estimated to be about one-half the crop of the east side of San Joaquin and something less than one-half an average on the west side.

The Fresno Republican says that the exaction of Japanese labor is causing the ranchers to look to Mexico for peons to perform the lower grades of ranch labor in that section.

L. C. Byce, head of the Petaluma Incubator Co., with his manager H. C. Gray, have returned from an extended trip over the East, where supplies were laid in for a larger output of Petaluma Incubators than ever before.

The break of the levee near Bakersfield, caused the flooding of the section of rich farm land two to twelve miles wide and thirty-five miles long. It is claimed that it will be years before the marks of this catastrophe will have disappeared.

The United States court at Los Angeles, Wellborn, judge, has decided that the long contested suit of Anderson-Barngrover of San Jose against Fullerton Walnut Association in favor of the plaintiff. The court has fixed damages against the Fullerton growers at \$32,000. The case will be appealed.

HORTICULTURE.

Kerman is selling peaches at \$70 per ton.

A new irrigating canal is to be constructed near Hanford.

Early grapes of San Joaquin county are bringing \$60 to \$70 per ton.

Pears are being shipped from Lake county and are bringing \$50 a ton.

Turlock is shipping cantaloupes, of which it claims to have a fine output this year.

An immense crop of grapes is promised for the whole San Joaquin county section.

The farmers of San Joaquin valley are planning for the construction of a deep water way.

Hanford Sentinel says that almost its entire output of 'cots will be forwarded direct to Germany.

Fierce fires are burning in the Sierras back of Bakersfield, causing great loss on the water sheds.

The next annual State Fruit Growers' Convention will be held at Marysville, December 3rd to 6th.

Five thousand acres in one vineyard are to be planted near Kerman, Fresno county, which will be the largest single planting of wine grapes in the State.

County Health Officers of Fresno, maintain that ranchers who fight grasshoppers with poison in their vineyards are violating the law and must cease.

It is now claimed that the output of prunes in California this year will not exceed 36,000,000 pounds. This will only be about one-third of last year's output.

The State Board of Trade at San Francisco is making a strong fight to prove that the sulphuring of fruit in the process of drying is not injurious to that fruit as a food.

Prunes in Oregon having practically all been purchased by advance contracts at a three and one-fourth cent basis, it is felt that California prunes have good promise of big returns.

The Visalia cannery, a branch of the California Fruit Cannery Association, is working on peaches. The cannery has been improved by the addition of considerable new machinery.

Some Marysville people regretted so much to see their fine trees of many years give away in order to destroy the White Fly, that they have made some trouble for the commissioners of that county, who are endeavoring to secure a thorough clean up of the White Fly pest.

N. G. Perry, one of the Cultivator subscribers at Loomis, while in the office last week told us Placer county will have more than half the usual crop this season for which good returns will be received by the grower. There is no White Fly in that locality nearer than Marysville.

The highest price this year was received in New York for a carload of San Jose cherries which commanded \$4500. This is claimed to be the banner price for any carload of green fruit ever sent to any State of the Union from any market in any country. In fact, San Jose swells up and says that it is the banner car of the world.

PER
2 BUSHEL
SACK

\$1.90

PER
2 BUSHEL
SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by all largest and best breeders in the country. Thousands of poultry-men are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultry men who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis Worlds Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland.
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis and Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 505 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

Beef Scraps Raw Bone

GUARANTEED ANALYSIS:

Protein.....65%
Fat.....8%

Made of Cooked and Dried Livers, Lungs, Melts and Clean Scraps. No fertilizer ingredients in these Beef Scraps.

Pure, Clean Animal Matter Poultry Foods

WESTERN MEAT COMPANY SOUTH SAN FRANCISCO CALIFORNIA

GUARANTEED ANALYSIS:

Protein.....25%
Phosphates.....45%

Made of Clean Beef Bones, surplus fat removed. Cleanest Raw Bone on the Market.

Lincoln Avenue Poultry Yards

—Capt. Mitchell's S. C. White Leghorns—

To clear a few yards for young stock we will sell a limited number of extra choice breeders at half price until August 15th. They are all utility birds with conformations ranging from 150 to 250 eggs per year; prices from \$1.00 to \$3.00 each for hens and \$3.00 to \$25.00 for cocks. If you are interested come and see us or write.

CARL C. CURTIS, Owner

Altadena
Cars

Lincoln Ave. and Ventura St., Pasadena, Cal.

Beef, Blood and Bone Will Make Your Hens Lay

This is not a medicine but a high grade nitrogenous food. Write for free booklet, "How to make Hens Lay." Our Poultry Foods are sold by all local dealers and manufactured solely by

The Pacific Guano and Fertilizer Co.

Also Pioneer Manufacturers of High Grade Indiana and Yolo Sts., San Francisco, Cal. Fertilizers. Write for our free booklet, "Farmer's Friend." Valuable to all farmers and ranchers.

Bemis Plymouth Rocks

Barred and White

Prizes Won at Alameda County Poultry Association Show, Oakland, 1907—22 Regular Prizes and 8 Silver Cups. Can furnish best birds and eggs at reasonable prices. No incubators lots furnished Mrs. Florence E. Bemis, 1757 19th Ave., Oakland, Cal.

Special Sale of White Leghorns

Mitchell Stock 200 Yearling Hens at \$18 per dozen
100 2-Year-Old Hens at \$15 per dozen

Also some choice White Leghorn and Black Minorca Cockerels. These birds are all in good condition. Hens are from my breeding yards and must be sold to make room for my young stock. Write or call. Satisfaction guaranteed.

S. E. GREGG, 126 So. Adams St., Riverside, Cal.

Profit in the Poultry Yard

We solicit short articles of a practiced nature from the fancier and utility breeder, giving their experiences with poultry. All inquiries pertaining to feed, management, disease and its prevention, will be answered through these columns.

SET RULES OR METHODS.

MANY letters are received by us from beginners asking for a safe rule to follow in the care and feed of chicks, and while we have followed our own methods and plans we have always felt that many others had just as good (and perhaps better) ways of feeding and caring for young chicks. In order to give the readers of the Cultivator the benefit of experience poultrymen in different parts of the State we sent to a number of breeders, questions requesting answers of not over 500 words, and have received some excellent articles from breeders and fanciers, known as such not only in California, but the entire Pacific Coast.

We trust that as these articles appear others will grow enthusiastic and send us their methods of feeding.

The first article is from the well known and successful White Leghorn specialist Mr. Frank E. Baldwin of San Jose. The only change we would make in his method of feeding would be when he feeds whole wheat we would add cracked corn in small quantity. In Mr. Baldwin's letter accompanying his article he says: "So far as he knows his plan in teaching his chicks to roost is original with him, and works like a charm with Leghorns. He also says that he never puts a chick on the roost—we put the roost in the right place and they do the rest." We never saw more crowded into one sentence than is contained in the above. It certainly gives much food for thought. If more poultrymen would study the conditions and habits of our birds we would find many ways where they would help themselves and benefit us.

Mr. Baldwin's Way.

When chicks are taken from incubators they are fed fine grit and water for first full day. The grit is put on their boards to raise it above the litter so the little chicks can find it. The second day and for a week we feed one of the prepared dry, small grain or seed mixtures, five or six times a day on the thin boards so chicks can find it under their feet. The second week we add cracked wheat gradually increasing the cracked wheat till about the fourth week, when we add whole wheat, as well as cracked, and increase the whole wheat till at six week's old they eat all whole wheat. After the first week the feed is thrown in litter where they scratch for it.

We give them water in a galvanized iron drinking fountain and skimmed milk in a pint earthenware font from the start.

On the fifth day we give them meat scraps in dishes shallow enough so they can find it easily and the second week and after, they get meat scraps from a hopper.

We give them green stuff, lettuce, cut grass or anything green, in fact, all the time they are in the brooder. Good Scheme for Green Feed.

At three week's old the chicks are running in the brooder yards with water dripping from faucets into clean pans. Each yard has hopper of grit—charcoal and meat scraps as well as a bed of alfalfa growing under an

inch mesh wire held up from the ground by six-inch boards. The chick eat it down to the wire and keep eating it as it grows.

A Mash.

At three weeks old we feed mash once a day in the yards. We use some mash as fed to mature stock, to save labor. The mash is of bran, ground barley, middlings, corn meal, bee scraps, charcoal, oil cake meal and alfalfa dry leaves or ground alfalfa.

I have twelve individual outdoor brooders, Charles A. Cypher's Model and put fifty chicks in each.

How Many to a Brood.

I have constructed three roosts of laths, one a little higher than the front of the hover and a little toward the front of the brooder. The next roost a little higher and in the middle of the nursery chamber, while the last is higher still and near the front of the brooder. At a week or ten days they will find the top of hover and in the next week will begin to climb onto these roosts. At three weeks the roosts are covered every night with roosting chicks. At six weeks they are shut down stairs under the brooders and go to roost there without bunching while another lot from incubator are put in brooders above.

Yours for better poultry and less work.—Frank E. Baldwin, San Jose, Cal.

* * *

Now, From the 'Dobe Incubator Woman'

The following from Mrs. C. D. Hubbard of San Fernando, breeders of White Wyandottes is to the point. Many readers of the Cultivator will remember Mrs. Hubbard, as the originator of the Adobe incubator with a capacity of three thousand eggs also the Adobe brooder which is three hundred and sixty feet long, both are successfully operated at Mission View Poultry Ranch.

Mrs. Hubbard's Way.

I take the chicks from the nest of incubator when they are from 30 to 36 hours old, put them in the brooder with the temperature at about 85 degrees for the first 24 hours then no over 80 degrees for about one week. One should watch and see that they do not crowd if they do then they are cold; also watch that they do not get overheated. As a chick grows it needs less heat. Remember that a chick that has been chilled or overheated seldom lives and if it does it will not pay you for its feed. I feed them entirely on chick feed until they are ten days old. Feed them green feed also, twice a day, chick feed three times a day, fresh water twice a day. At ten days I begin to feed in the morning a mash consisting of bran, cracked corn, or Egyptian corn, prefer the latter, meat, bone, blood shell and charcoal two pounds of bran, two pounds of corn, four ounces meat, four ounces blood, four ounces bone, four ounces shell and two ounces charcoal. Chick feed balance of the day. When six weeks old I feed them the same as hens.

Size of Colony.

When first hatched I keep fifty to a brood at five days, 40 at ten days 30 until they are ready for cold brooder. This number is for hot brooder with floor space under hovers 18x36 inches and indoor run 3x9 1-2 feet and outdoor run 3x20 feet.—Mrs. C. D. Hubbard, San Fernando.

* * *

MY WAY OF CHICK FEEDING.

Mr. N. Hayden, Buff Orpington breeder, gives us some original ideas

July 18, 1907.

**Henney Buggles**

Made at our branch factory, Freeport, Ill.; backed by the Flying Dutchman guarantee. No better to be had. All styles. Ask your dealer to show you.

MOLINE PLOW CO., Moline, Ill.

Send 4 cents in Stamps for Flying Dutchman Song Book

POULTRY SUPPLIES

Newest, finest largest, and most central store. Prices the very lowest. Come and see.

Pacific Incubator Co.

707 So. Spring St.
Los Angeles

Ranch For Sale

A five-acre ranch with seven-room house. A variety of fruit. Poultry yards for a thousand fowls. Cars at the door.

Susan H. McPherson

Third St., Chula Vista, San Diego Co. Cal.

BARRED ROCKS

EXCLUSIVELY

Send for Sixteen-Page 1906 Catalogue

H. R. CAMPBELL

BOX O PETALUMA, CAL.

Spargur's Trap-Nested White Leghorns

Cockerels for sale from my best hens. A few Light Brahma Hens and Roosters for sale. Eggs from L. R. Ducks and Blue Andalusians at \$1.00 per setting, \$5.00 per hundred.

H. G. Spargur, Soquel, Cal.

Baldwin's White Leghorns

Egg prices cut in two for May and June. Fine youngsters at reasonable rates. Good older stock cheap to make room. Send for latest price list.

Frank E. Baldwin

46 Washington Ave. San Jose, Cal

Ross & Tate, Altadena, California

Breeders and Importers of

Buff, Black, and White Orpingtons

Have for sale Trios, Cockerels and Pullets. Eggs for hatching, settings or hundreds. Write or call.

Two Blocks North, One Block East Altadena Post Office

Buff Orpingtons

For Sale

For Sale—Two first class pens of Buff Orpingtons. Must be sold at once on account of removal. Cock cost half for what I will sell pen for. Prices, \$12 and \$15. References given.

Mrs. M. A. Buswell

R. F. D. 11 Watsonville, Cal

COLUMBIAN WYANDOTTES

Winners at Breeders' Great Show, 1907. 21 prizes on an entry of 26 birds. Stock for sale, also eggs \$3 and \$5 per setting of 15; \$20 per 100.

Ed. M. Burnell, South Pasadena, Cal.

WHITE WYANDOTTES EXCLUSIVELY

Good, White, Typical Birds. Stock and Eggs For Sale.

W. A. SEYMOUR

470 No. Beaudry Ave. Los Angeles, Cal.

MY EXHIBIT OF

WHITE, BUFF AND PARTRIDGE Wyandottes

Won 26 Ribbons and Special Prizes at the Poultry Breeders' Show, 1907. R. D. Box D87 L. E. BERKEY, Fullerton, Cal.

WHITE WYANDOTTES Hubbard Stock heavy-laying prize-winning strain. Commencing June 1st, eggs, \$5.00 per 100; baby chicks, \$2.25 doz. Cannon Poultry Co., 2851 Morgan Ave., Los Angeles Take Slauson Ave. car to 29th St., walk 1 block west

SHADE'S RHODE ISLAND REDS

The World's best layers.

Write for Folder.

J. W. Shade San Bernardino, Cal.

WHITE, BUFF COLUMBIAN WYANDOTTES

And Golden Sebright Bantams, prize winners

Stock and Eggs in season

M. E. Dillingham, Box 67 San Gabriel, Cal

and many that are practical. We feel sure that this will be read with interest and will prove a benefit to many.

Mr. Hayden's Letter.

In answer to your questions, will say I have found feed meal, fed dry, highly satisfactory for the first week or ten days. As they mature, I add to this cracked wheat and cracked corn, abandoning the finer meal, when the baby days are past. Until that time I keep the meal always in sight, but when it is given up I hide their grain in straw and make them work for it as do the older fowls. Four things to eat can be kept before young chicks from the first day, (coop them all so Mother Biddy will not kick them skyward) grit, charcoal, bone and meat. Get these fine enough and the animal food as fresh as possible. Every chick on my place has access to fresh, dripping water. If your vessel under the hydrant is deep, fill it with rock and the chicks will not drown. Keep these water reservoirs clean, klean, clyen! Never rub them with hands. Keep gunnysack rags in wire fence near by. But, better far, fetch down from the house a pail of boiling water and let these disease accumulating reservoirs get an unfashionable soak, say once a week. Then rub thoroughly and rub and wash and rinse again.

Perhaps now Mr. Roup will pass your door; he calls only on fashionable folk at Filthville.

No Greens for Little Ones.

Baby chicks will not eat greens, even lettuce offers no temptation the first few days. In two weeks, however, begin with it and if Biddy is in charge you will soon find she will take it all unless you hide it beyond her reach, as I suggest doing with the four auxiliary staples. This leads me to add, Biddy will cover and protect her babies very much better if you will give the half-starved lady several good, square kitchen meals soon after she leaves her nest. To do this confine her for five minutes away from the brood where she cannot hear them. She will return to their protection with a warmer body and far more disposed to squat and brood, which is precisely what they need.

Their food you have provided. Here further usefulness is to be an ever ready shelter from the cold. Let her eat also the grain the chicks eat. If you feed her heavy wheat the chicks will get it too.

Colonies.

Regarding "colonies," would say: when my hens refuse to cover their young I separate them but do not join these to a similar brood until or unless I need the room.

A little more work to care for them? Yes, but they will do better if kept in small numbers. My broods are always large because I always set two hens the same night and give the chicks to one hen unless the hatch runs over sixteen. One can set three hens similarly and give the chicks to two mothers.

After confinement alone with their mother for five days so they will learn to distinguish her, it is a good plan during the colder months to put two mothers together with their broods. If they become resigned and quit scrapping you will save labor, of course, but mainly, one may refuse to cover her young altogether too early, in which case the foster mother may save several young lives. Almost invariably the chicks will drift toward the superior matron which also gives you the deserted hen for

Molting Time

is the time to provide for eggs when they will be scarce and high. Don't let your hens molt for months. Don't let them get completely run down and all out of condition. This they will certainly do unless you use care and intelligence in feeding them through this trying season.

West Coast Egg Food

is a highly nitrogenous Poultry Food, rich in protein, composed of the finest grains, seeds, roots, salt, iron, charcoal, condiments, shells, oil cake, bone, meat and dried blood to keep the poultry in good health, build up a strong and vigorous system, make the hen molt early and convert the surplus aliment into eggs. It is a full, scientifically balanced ration containing no filler but every ounce is pure food. Many so-called "Poultry Foods" and "Egg Makers" are nothing but stimulants and not advisable to be fed regularly. If your poultry are already in a run down condition,

West Coast Poultry Tonic

is what they need for a short time; that is just what its name implies. But it is very easy to mix a lot of ingredients, much of it a little better than refuse and call it egg food. And even if good foods are mixed it does not make an egg food unless the ingredients are adapted to the requirements. Some mixers of "egg food" seem to think that it is the shell alone that is to be made, forgetting that a hen has no use for the shell until she has made the egg.

West Coast Egg Food

is made of just such first-class materials and in such proportions as has been proven by long practical experience to serve the purpose of assisting the hen in her molting and then in producing eggs, and at the same time to build up her system and keep her in the best of health. The hens like it, they eat it, there is no waste, hence it is the cheapest Egg Food on the market.

West Coast Egg Food

can be fed either as a mash or as dry feed, though we recommend the latter because it is more natural and, we think, the better way. Don't ask Biddy to fill the egg basket without giving her good care and providing her with proper material for the purpose. Feed her West Coast Egg Food. For sale by many dealers. If yours doesn't keep it, or will not get it for you, send direct to us.

Manufactured by the

West Coast Stock Food Co.

818 San Fernando St. (Through to Alameda) Los Angeles, Cal.

Excelsior Egg Food

By scientific and careful experiments we have been able to compound a ration in our Excelsior Egg Food to produce the desired results, that is

More Eggs

It pays to give the hen a highly nutritious balanced Egg Food Mash, mixed in proportion to insure the results. Use it the year around, and you will have healthy hens, and more eggs when they are high-priced, as well as when they are cheap.

If your dealer doesn't handle it telephone or write us.

Price 90-lb. sack \$2.15; 25-lb. sack 75c.

Del Monte Milling Co.

242 Central Ave.

Los Angeles, Cal.



THE WHITE WYANDOTTES

THAT WIN AND LAY

\$15.00 and Up Per Dozen

Lakenvelders, per pair, \$8.00; trio, \$10.00. Mammoth Bronze Turkeys Reasonable.

Mrs. C. D. Hubbard, Box 282, San Fernando, Cal.

When writing advertisers, mention Cultivator.

your breeding pens many days before otherwise you could spare her. Regarding the perch or roost, I never encourage it too early. In fact, it is better to place it high so they will have to use their wings to secure it.—N. Hayden, Altadena.

AROUND THE YARDS.

Don't wait until the rainy season starts before you build your house.

Be kind to the broody hen; remember nature demands a rest, and setting is a rest for them.

The reason many flocks don't pay, is because they are neglected. Are yours paying?

Pullets and hens should not be fed in the same yard, as they require different kinds and amounts of feed.

Gather your eggs often this warm weather and get them to market while they are fresh.

Breeding standard bred fowls is an interesting work aside from the financial profit to be derived from it. There is considerable pleasure in handling and producing the beautiful specimens of fowl life.

By using a little care in selecting your hens you can increase the size of eggs. Keep those that come near-

est laying the kind of eggs you want for next years breeders.

It is hard to pick a prolific layer by points. The amount of production tells the story.

Well, What Do You Think of This?

Wouldn't you Californians like to live "Back East" where you can get cheap hen food? Listen to this from an Eastern Exchange:

"A New York man, William A. Woodbury, has at last found a use for the mosquito, the bane of all the suburbs of the metropolis, and he declares that the much-maligned insect should be cultivated instead of eradicated.

"The gentleman in question has a summer home on Long Island where the little pests—or blessings—abound in great numbers. One night he set up a net with a large opening and a brilliant light at the small end. In the morning the net was full of mosquitoes and other insects.

"These he fed to the hens, and according to voracious chroniclers, the fowls thrived wonderfully on the food and proceeded to lay eggs at a furious rate in order to show their appreciation.

"Mr. Woodbury estimates that he has caught about a ton of mosquitoes for his hens and ducks since summer began, and he advises all farmers to go in for his cheap brand of hen food.

"This information comes from a metropolitan paper and is respectfully referred to the experts of the Department of Agriculture as a suitable topic for another bulletin."

Bees and Their Care

HONEY PRODUCTION.

ANY one acquainted with bees knows there is no certainty what the honey harvest may be until it is actually secured or, in many cases, until the sections are filled and removed from the hive, for it frequently happens that the flow is good during a part of the season and then for some reason it suddenly ceases, leaving the sections unsealed. Such instances frequently occur, says a writer in Coleman's Rural. It is by no means an easy task to obtain really well finished sections, though if the sections are properly prepared and placed upon strong colonies or swarms standing near fields of white or alsike clover, or similarly good honey-producing crops, the bulk of the sections will generally be well finished.

The great secret of obtaining well finished sections is to crowd the bees. This is done in two ways, either by removing the outer frames from the strong colony and substituting dummies at the commencement of the honey flow, or by giving a very strong swarm limited room in the brood chamber when hived. By adopting the former method the crowding has a tendency to cause swarming, but so long as fine weather continues and the bees have ample but not too much super room, so long will swarming, as a rule, be avoided. It is when there comes a change in the weather, compelling the bees to leave the super and further crowd in the brood chamber, that swarming is practically certain, unless during the time they are so crowded, work in the form of comb building is given by substituting empty for full frames in the brood chamber.

To succeed in the production and sale of sections requires much more skill and patience than many beekeepers are in a position to give. We have found that it is very hard to get the beginner to see the importance of keeping the full working force of the colony together during the entire honey flow. They nearly all seem to think that the more colonies of bees they have the more honey they will get, and it is very hard to make them understand why it is that a good strong colony of workers will gather a surplus of fifty pounds of honey when, if they had been divided and two colonies made of them, they would probably have not given their owner any surplus honey at all. We are becoming more and more convinced of the value of drawn combs. Supers containing sections with full sheets of foundation do very well, but it is plainly evident that those supers containing drawn combs are entered more quickly and filled with honey. Until very recently the most difficult and not the least dangerous of operations in the apiary, was the removal of supers, but with accurately fitting parts, and the avoidance of all incentive to the building of brace combs, the difficulty is removed, while by the use of bee escapes the bees leave the supers without disturbance. There are two or three advantages in putting on bee escapes. First, you get rid of the greater part of the bees. Then, if there are any brace combs between the super and the brood department, these are all broken and the honey there may be quietly and without danger of robbing. There is also a great advantage in not disturbing the colony, since all, or nearly all, the bees have left the super of their own accord.

A PLEA FOR MORE HONEY.

Any one who doubts that there is money in bee-keeping need only to look up statistics on the honey crop of the United States to find out what a great marketable article honey is. In the year 1900 the total amount of capital invested in bees in the United States was \$10,186,000. The returns from the national honey crop that same year were \$6,665,000. A dividend of 65 per cent on the amount invested. What other crop pays this rate of interest?

At a convention of the bee-keepers of the State of Massachusetts held this year, the fact was revealed that only forty tons of honey were raised annually in the State, while the amount of honey consumed each twelve months amounts to more than 200 tons.

Honey is always a ready seller, and the price per pound averages anywhere from 12 to 20 cents, depending upon the locality and quality. A good hive of bees in the average locality will produce about 75 pounds of honey per year and pay 50 per cent on the investment the first season. Get posted in bee-keeping, if you seek a pleasant and profitable occupation.—Exchange.

HUNTERS, GET A LICENSE.

Cultivator readers must not ignore the new hunter's license law now in force. Any resident of the State and a citizen of the United States may secure one by paying \$1; a non-resident of California, but a citizen of the United States may, upon the payment of \$10, while any person not a citizen of this country must pay \$25.

See your County Clerk for the license and don't try to evade the law.

For the convenience of those residing at a distance from the county seat, and to save them time and expense, the Commission has had prepared Hunter's Application blanks, which may be obtained by addressing request for the same to the County Clerk of your county, or to the fish commission, at San Francisco. On receipt of the application properly filled out, enclosing money order, the Hunter's License will be promptly forwarded to the desired address.

MANY USEFUL HINTS.

J. Steckmeyer, of El Verano, Sonoma Co., writes "I wish to mention that the California Cultivator is a very useful paper. My wife and I both find many useful hints in it."

IT'S PENNY WISE.

Policy to set out a good tree, costing good money and then let the sun burn the bark or the rabbits gnaw it when for \$1.00 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Manufacturing Company, 2124 Willow Street, Los Angeles.

HOW DID SHE KNOW?

The local Woman's Club had offered a prize for the best essay, by any member, on "How to Make a Husband Happy."

It was a cash prize, and summer expenses were in the near distance and the competition was large and warm.

The winning paper was just three words long, and, stranger even than that, it was submitted by a spinster of fifty-seven. Her dictum was merely this: "Feed the brute."—Lippincott's.

A. C. W. Pearl Oyster Shell

Beef Meal, Beef Scraps, Bone (all grades of fineness) and all A. C. W. raw materials are for sale at dealers or direct from our factory, should you desire to mix your own egg food. You may have noticed a difference in A. C. W. raw material from others. If not, buy some and see for yourself. Note the clean, bright appearance and absence of foreign or waste matter.



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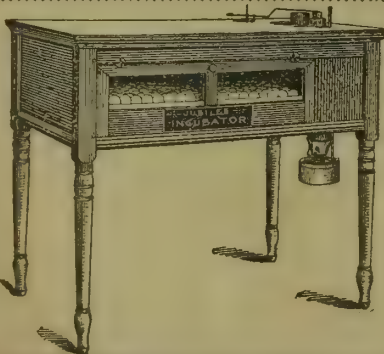
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SAN JOSE, CAL.

Household Department

GOD BLESS MOTHER.

A little child with flaxen hair,
And sunlit eyes so sweet and fair,
Who kneels, when twilight darkens
all,
And from those loving lips there
fall
The accents of this simple prayer:
"God bless!—God bless my mother!"

A youth upon life's threshold wide,
Who leaves a gentle mother's side,
Yet keeps, enshrined within his
breast,
Her words of warning—still the
best;
And whispers, when temptation-
tried:
"God bless!—God bless my mother!"

A white-haired man who gazes back
Along life's weary, furrowed track,
And sees one face—an angel's now!
Hears words of light that led aright,
And prays with reverential brow:
"God bless!—God bless my mother!"
—Brooklyn Magazine.

HIRAM'S LUCKY AUCTION.

WITH a whoop the Caldwell children rushed out to greet their father, and Mrs. Caldwell hurried after them to head off any raids on the green bob sled.

"Get everything, father?" she called, as she peered out of the storm door.

"Got a plenty," he called back, with an attempt at heartiness that caused her to glance quickly at the sled. She had heard those half apologetic tones before and knew what they meant.

Back in the sled, covered by a blanket was a square package. It was not the right shape package. It was nor tall enough for a barrel.

She drove the children into the house and shrouding her head in an old wood fascinator she followed out to the barn, where Hiram was already unhitching the tired team.

She made straight for the sled and threw aside the blanket, discovering a small soda fountain.

"What did you pay for this," she demanded, indicating the square of stained marble with its tarnished spigots.

"Six dollars and thirty cents," he said, the red surging into his face. "The man said the metal is worth more'n that."

"Then you didn't have anything left for the presents?" she asked, reproachfully. "Oh, Hiram! And after you promised."

"But, look here," he argued. "There is bound to be another store set up. Maybe they'll want a fountain and I can sell this at a big profit."

There was no use in arguing. Ever since they had been married she had tried to persuade Hiram to stop buying things at auction, but it was a passion with him, as it had been with his father before him.

He had never before made quite so ridiculous a purchase as a soda fountain, but he never acquired anything worth while. He bought cheap for the love of buying, things so old or useless that no one else would bid.

Were it not for the little shop Mrs. Caldwell kept in the front room for the benefit of the neighbors, the mortgage would have been foreclosed years ago. As it was, she kept up the interest with the meager profits of the little store and the egg and butter money.

This and some of the grocery money had gone into this ugly, useless fountain. In the fascination for the sale all else was forgotten.

The next morning Hiram hailed a passing acquaintance and together they stalled the fountain behind the

tiny counter that had once been part of McQuiston's store before the sheriff had seized the goods.

It was several weeks before Mrs. Caldwell was satisfied, but at last she had to admit that the gleaming marble with its polished spigots, gave "tone" to the place.

When the days grew warm the ice box was filled and lemon soda and homemade birch and ginger beer were dispensed to the youngsters of the neighborhood.

Then came a day when one of the big red automobiles that went flashing down the road on the way to the falls, stopped in front of the yard. A leathern clad man tramped up the gravel walk and returned to the car with three glasses of birch beer.

When he came back with the empty glasses he drained two more himself and threw down a quarter.

"You ought to have a bigger sign," he said, as he sat down his glass. "I barely made out the place myself."

"I guess I will," said Mira, as she laid down fifteen cents.

"That's worth five cents a glass," he said. "You'll never make money at two cents a glass. You'd better raise your price and begin with me."

He pushed the money back to her, and with a courteous doffing of his cap was off.

Mira was slow of thought but quick of action. When the auto sped down the road on its way back to the city, a huge sign decorated the fence. Mira had sacrificed one of her scanty store of sheets, but already she had sold twenty glasses of soda at a net profit of eighty cents.

Her visitor of the morning drew up again.

"My sister enjoyed the soda so much that we want more," he said, with a smile. "I see you have the sign out."

"Made it with store blacking," said Mira proudly. "I didn't have any paint."

"It does first-rate," he declared. "Had any results?"

"This makes a dollar sixty," said Mira. "That's more than I take in usually in a week."

"Advertising is the secret of success," he pronounced. "Keep it up and you'll be needing some assistance soon."

It was several days before that particular auto stopped in front of the weather-beaten gate. This time the driver was alone. He drank a glass of ginger ale and asked for a sandwich.

This was a new demand, but there was part of a chicken left from Sunday, and presently Gertrude came in with a dainty sandwich that brought fresh praise from the visitor.

"You'll have to make a new sign," he said, as he set down the empty plate. "With homemade bread, fresh butter and chicken that never heard of a beef trust, you've an article that can't be beaten. Look here," he added, "why don't you start a real inn? There are hundreds of autos in town. The road to the falls is the best hereabout, and there's no chance to buy decent food. Put some tables out under the trees. Put in a stock of syrups and a tank of soda. Add some ice cream and cake—and keep everything just as home-like as you can."

Gertrude clapped her hands. "We'll do it, mother," she cried. "Can't you see what he means? Thank you so much for your suggestion."

"Look here," he said. "That old

stump by the gate is no use, is it?"

"We're going to have it pulled when Hiram gets the time," said Mira, apologetically. "We've been meaning to do it ever since the lightning struck it."

"Don't do it," her patron almost shouted. "I've got a bully idea. Let me be the godfather of the place and I'll make a sign out of the tree for a christening present."

He was back again early the next morning. He smiled appreciatively as he saw half a dozen small tables scattered about under the trees. The grass had been mowed and the place looked fresh and inviting.

Under his direction a man he had brought with him began to hack at the tree.

An auto party came up just then and took possession of one of the tables. Gertrude went off to wait on them, and by the time they had taken their departure the wood carver had completed his task.

The old stump, denuded of its bark, stood splintered and torn, but with a smooth oval on its face.

"That doesn't seem to be anything," said Gertrude, as she regarded his work.

"It will be a work of art before I get through with it," he explained, "or my name isn't Ernest Paynter."

"It is? Are you really Mr. Paynter, the artist?" she asked, finding that fact of greater interest than the sign.

"Bless my heart," he exclaimed, "I seemed to know you all so well that I forgot you did not know my name. I am Ernest Paynter and very much at your service."

She extended her hand with a formal little "Glad to meet you. Mr. Paynter." that made them both laugh, and, still holding her hand, he drew her into the road where she could see the front of the sign. On the panel, in raised letters, were the words, "Good Luck Inn."

"That's the name of the place," he explained.

The sign seemed all that was needed, for trade grew to proportions undreamed of. A soda manufacturer sent a wagon out once a week with a load of tanks for the fountain. Hiram scoured the country for poultry and eggs, and instead of the long drive to the creamery each night it was not long before they bought cows to supply their own increased needs.

Paynter was out almost every day, and it was he who kept the price at a point that sometimes worried honest Mira Caldwell's conscience. A dollar for a meal seemed reasonable, but Ernest held out for \$2 a head, and very soon they had to establish a waiting list.

By the time the motoring season closed and there were only occasional calls for hot coffee and sandwiches, Mrs. Caldwell was glad of the rest.

Long before most of the hard work had been delegated to hired girls, and she had contented herself with running the kitchen, in which a new range had been established, but these had been busy times for all, and even now there was enough to keep Gertrude busy, so there was a new teacher at Mink's Crossing.

"We don't have to worry about the mortgage," laughed Gertrude. "That's paid off, and there's plenty in the bank."

"And to think you pa claims that the fountain was a mascot," said Mira. "That Ernest Paynter was the real mascot."

"He was wonderfully good," said Gertrude, softly, as she moved the ladder over to the chandelier.



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"That's what he was," was the emphatic response. "Gertrude, when you get married, I want you to marry a man like Ernest Paynter."

"Yes, ma'am," Gertrude answered dutifully.

"I made my mistake when I married Hiram," ran on Mira. "I want to see you married right. Why, I remember—"

Her reminiscence was cut short by a cry from Gertrude. Ernest entering the room had caught her on the ladder and was holding her securely in his arms.

"I didn't mean to eavesdrop," he said, laughing, as he faced Mrs. Caldwell, his arms still about the girl. "But since you and I are agreed as to the man she ought to marry, suppose we hear what Gertrude has to say?"

Mira didn't hear Gertrude's reply, but, as she surveyed her tear-stained face, she needed no verbal assurance.—*Brooklyn Times.*

SAVING THE BLACKBERRY CROP.

The scarcity of some fruits which are usually very plentiful should be a spur to a careful gathering and preserving of the crop of such as produce a fair yield. Strawberries in spite of the early unfavorable reports have redeemed themselves as usual, and have again proved that this little plant can be depended on "to do something" when more pretentious fruits fail.

The blackberry, too, will yield an abundant harvest of luscious fruit if the profusion of bloom may be taken as an indication.

It would be the part of wisdom to make the best use possible of these berries and secure plenty of cans, etc., if they are not already on hand, so that an abundance may be saved for a year's supply at least. If more are canned and preserved etc., than will be used till the fruit season comes again no harm will be done; for though "enough is as good as a feast," it is best to be on the safe side and have plenty, for "enough" is often a variable quantity determined by existing conditions.

In this connection the writer is reminded of a fragment of conversation heard years ago between two housewives on this very subject of canning berries. Said Mrs. A: "I have canned all the blackberries I intend to this year; I have twenty quarts; I reckon that will be enough." "Yes, maybe that's enough," admitted Mrs. B., "but I have canned twenty gallons, for I want a plenty."

That is the point to have in mind the present year. Be sure to save "a plenty" of such fruit and vegetables as there may be a surplus of for there is certain to be a scarcity of many kinds, and a good store house to draw from, for food supplies saves grocer's bills.

Raspberry Shrub.

Raspberry shrub possesses the advantage of being easily made. Put them in a large stone jar, or huge yellow bowl, and pour over them enough pure cider vinegar to reach as far as the berries, but no more. If the vinegar is too acid, a little less will suffice. Let the berries soak in the vinegar for thirty-six hours. Lay a coarse muslin strainer in a colander, over a stone jar, and dip the vinegar and raspberries into it, mashing the berries to extract all their juice. Measure the liquid and put it over the fire in a porcelain-lined or aluminum kettle. When it boils, add a pound of loaf sugar for every pint,

and let the whole boil for ten minutes; then bottle and seal. Use about two tablespoons of the syrup in a glass of water. Add about two tablespoons of crushed ice, stir it, and serve it with the most delicate white sponge cake or with the simple wafers.

Raspberry Cordial.

Mash in a stone jar four quarts of ripe berries, with a pound of white sugar, and pour over them one quart of fine cider vinegar. Set the jar in the hot sunshine four hours; then strain the mixture, pressing out all the juice. Bottle and seal, and lay the bottles on their sides in a cool cellar. Drink in the proportion of two tablespoons to a tumbler of ice water.

Potato Puffs.

Mould warm mashed potatoes in balls about the size of an English walnut. Place in a buttered tin brush with a well-beaten egg and set in the oven to brown. Serve hot Garnish with greens.

One-Egg Cake.

One tablespoon of butter, one egg cream them. One cup of sugar, one cup of milk, one and a half cups of flour, with two teaspoons of baking powder. Flavor to taste.

IN THE INTEREST OF CHILDREN

Oil of pine needles will often furnish relief when a child has croup or bronchial tightening, and has difficulty in breathing. Put one teaspoonful of the oil into a small basin of water and set it on an alcohol stove or gas burner in the room where the child sleeps. The fumes soon make the child more comfortable, and sometimes cause him to fall asleep. This is only a relief and not a cure, and should not be considered as a substitute for calling a physician in severe cases.

CAUTION: If a gas burner is used for heating the mixture, light the gas first before setting the pan on the burner. Sometimes the light comes on suddenly, with a sort of puff, in which case the oil in the pan may catch fire and quite a blaze will follow.

* * *

One woman writes that when her baby was small she bathed him in the enamel washstand in the bathroom, the bowl of which was unusually large. As the bathroom was not large, a wide board shelf was made, with cleats beneath to keep it from sliding, and set on the bathtub. Upon this were placed the baby's clothes and basket. In this way the things were within reach and the bath was easily and conveniently accomplished. The shelf could be lifted off and placed behind the tub when not in use.

* * *

The same clever woman has discovered that a strip of molding at the top of the tiled wainscoting is of great convenience. Loops of cord are attached to the molding to which tie clasps or supporter snaps are fastened. When towels or baby's articles, which have been washed and need to be hung up to dry, they are simply attached to these clasps at the corners and are held securely.

To keep the children's toys, a large wooden box is a great convenience. The lid should be supplied with hinges and a handle, and the box should be about 12x30 inches and 1 inches high. Paint the box black and paste on the top and sides some of the charming children's pictures which may be cut from the magazines. Put a coat of varnish over all and the pictures will not pull off and the box may be washed.

Queries and Replies Legal Queries

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

'Dobe Incubator.

A subscriber wishes information as to plans of constructing a 'dobe incubator. We do not think any plans for these can be secured from anyone who makes it a business to produce them. Mrs. Hubbard at San Fernando, has the only successful one we know of and no doubt she would give information to one who should call and examine it.

Diabrotica.

My garden, especially the pumpkin, squash and beans, are badly infested with small bugs. They are smaller than the house fly. Some are yellow with black spot and others yellow with black stripes. What can I do to destroy them? Please answer through Cultivator at earliest opportunity.—C. M. J., Carning.

From your description we presume these are Diabrotica, of which there are two varieties, formerly described in the Cultivator. Paris green spray helps a little, but they are exasperating and hard to control.

Three-Horse Evener.

Please give plan for a three-horse evener, for cultivator with tongue, which will not have side draft.—M. C. S., Rialto.

This is an exceedingly hard proposition and as one practical farmer who has had much experience told us that a plan which we suggested would not do it and that to be without any side draft at all is an impossibility. However, we will ask subscribers to send suggestions which will be of value to our Rialto correspondent.

Budding Walnuts.

Will you please inform me what time of the year should walnut scions be cut and when inserted? Would placing buds in August do, same as budding oranges? When do you bud apricots? Can you tell me where pure rubber can be purchased, that will dissolve in Chloroform? I am trying to work over some old walnut trees.—W. W., Santa Ana.

Walnut scions should be cut only when the trees are dormant and preferably in January. These should then be kept in damp, but not wet, sand and in a cool place away from the sun's rays until needed for use. The grafting should be done just before the stocks begin to grow as it is very difficult to make the proper union if the bark will slip.

Budding may be done at any time when there is a full flow of sap. Plate or ring budding is usually the most successful. The budding should be done when there is cool weather, if it is possible to select such weather, as drying winds are very trying to the newly inserted buds. Shingles may be used to shade the buds on young trees.

Budding of apricots is usually done in June or early in July but will succeed at any time the sap flows freely.—J. B. N.

Can any subscriber answer where to get pure rubber?

Poison for Rabbits.

Will you kindly inform me through the columns of the Cultivator how to get rid of wild rabbits? Can a person poison them and what kind of poison shall I use? They are very thick.—H. K. L., Imperial.

Watermelon or cantaloupe rinds

with strychnine will get some of them, though if they have plenty of their natural food to run to they may not notice your poisoned bait. When they exist in large quantities, the entire community joins in a rabbit drive; results in killing them by the thousands and is effective. If this cannot be done and you are single-handed and alone in the fight the rabbit fence about the place is the best and surest protection. If your trees are molested, you may save the trunks by smearing with bacon grease or any rancid or refuse grease.

Or, here is another poison: Take 100 pounds of wheat, nine gallons of water, one pound phosphorous, one pound sugar and one ounce of oil Rhodium. Boil water and phosphorous; let stand then add flour to make the paste with which mix wheat and scatter when rabbits are thickest.

Trapping Moles.

How can I poison a mole which is ruining my lawn? M. Y., Pomona.

You will find poisoning almost impossible. The mole is an insect feeder so that he does not take to any bait you may use. His only injury to your lawn is the unsightly ridges. Otherwise the mole is your friend, ridding the soil of just those pests which you want removed. But when on a valuable lawn, or where you cannot permit it to continue, the trap is the only sure way. Very satisfactory mole traps are now made. The "Out O' Sight" works like a charm.

The secret of mole catching is to know the habits and established runways, and the use of a good trap. You will notice in the early part of the season the mole runs show above the ground, and that all that is necessary is to press on the runway, closing it for a few inches, before setting the trap as directed.

During the middle of the summer or later when the ground is dry, moles work deeper; it is then necessary to clean off the grass and dirt to within one inch of burrow, before setting the trap.

Moies have established habitations, usually under fences, walks or rubbish, in high and dry places, with straight runways leading to them, a most suitable place to set the trap. They make many tracks which they never pass through but once and on which it would be useless to set a trap; but if you set it on the main runway you are sure to catch Mr. Mole, and you will soon learn which are the regular runs by depressing the earth; if raised again by the mole, that is the place to set your trap.

In a contest between the Gun Club of Los Angeles and ranchers of the peat lands near the Coast there is promised a strenuous legal fight to see whether the Gun Club can continue to waste the water needed for irrigation, simply to fill the sporting man's duck pond.

We should be trying to find out not in what we differ from other people, but in what we agree with them.—Ruskin.

Whose Mail Box.

If I place a mail box in front of my property, then sell the property and the mail box is not reserved, have I the right to remove the mail box, or is it the property of the purchaser of the property?—C. A. P., Santa Monica.

Evidently the box is fastened to something that is a part of the realty and hence goes with the land and becomes the property of the purchaser.

Eastern Drawn Will.

Inform me if a will made and registered in Massachusetts will stand good in California or is it necessary to make a new will.—Subscriber.

If the will made in Massachusetts complies with the statutes of California it will be good in this State. If you are a resident of this State and have property here it may be safer to make a will complying with the laws of this State. It certainly is the safer plan.

License for Selling.

If I am appointed agent for an Eastern manufacturing firm and wish to sell goods in California, will I have to take out a license.—J. H. R., Santa Rosa.

It depends upon what your are selling and whether or not the counties, cities and towns in which you sell require licenses. It is a matter of local requirements. Make inquiry from the proper authorities in the respective cities and towns in which you desire to sell.

Hedge Fence Ownership.

If a hedge fence has been standing as a division line between farms for twenty years, a part growing to one side, and a part on the other, and one party wishes to cut down the fence, the other party objecting, which of the parties can claim proprietorship?—R. M., Orange.

The hedge belongs to the owners in common. Neither has the proprietorship of the entire fence. They are both equally bound to maintain the fence. I apprehend that neither could cut down the fence without the other's consent.

Liability for Service of Stallion.

Will you please answer the following question through the Cultivator? I bred a mare to a stallion. Afterwards sold the mare to a shipper before it was positively known that the mare was with foal. I stated at the time of sale that the buyer must pay for the service. Buyer refuses to pay, claiming the foal to go with the

mare. Can I be made to pay for the service of the stallion?—A. B., Marysville.

The owner of the stallion has a lien for the agreed price for such service upon the mare, providing he within ninety days after such service filed in the office of the County Recorder of the county where such mare is served or kept a verified claim containing a description of the mare served, date and place of service, the name of the owner, etc. This does not relieve the original owner of the mare for such service although he has parted with her.



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Something About Kellogg's Ant Paste

Lompoc, Cal., July 19, 1906.

Mfr. Kellogg's Ant Paste:

Dear sir—I have been tormented with ants for years and they seemed to get worse every year. I saw your ad in the Cultivator and sent for a bottle tho' I admit I hadn't much faith in it. In fact, kept the bottle in house a week before I tried it. One afternoon I used the Ant Paste according to directions and the ants didn't pay much attention to it and I thought it was a failure like everything else I had tried, but next morning there wasn't an ant in the house. I could hardly believe it. It seemed like magic. I wish every one bothered with ants could hear of and use Kellogg's Ant Paste.

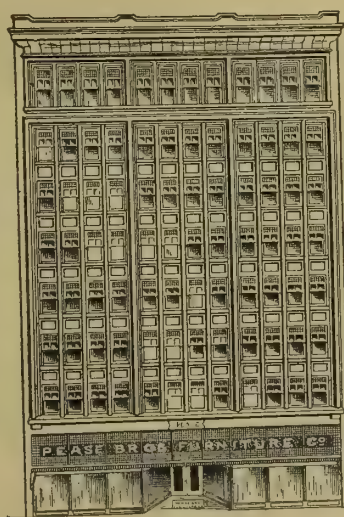
Mrs. Francis Burbridge.

Note to Druggist—You can get this from your Supply House, or write to the manufacturers,

Kellogg Ant Paste Co.
1010 E. Ninth St., Los Angeles, Cal.

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Importer and breeder of RED POLLED CATTLE, SHROPSHIRE SHEEP, RAMBOUILLET SHEEP, HORNLESS AMERICAN MERINO SHEEP. Both sexes for sale. Take electric car at Petaluma or Santa Rosa for LIVE OAKS STATION. Address all mail to Petaluma, Sonoma Co., Cal.



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The Produce Markets

Los Angeles Markets

Cutter.

LOS ANGELES, July 17.—Butter has recovered its set back and has made a slight advance and predictions are free that this week will yet see another mark up. In any case the market is well cleaned up and some difficulty is found in filling immediate orders.

Creamery extra.....57½@60
Creamery first.....55
Dairy.....50
Cooking.....21

Cheese.

Cal. Young America, per lb.....19
Hand.....20
California Anchor.....17
Cal 3-lb. hand.....20
Northern fresh.....16½
Domestic Swiss.....23
Imported Swiss.....30½

Eggs and Poultry.

Large quantities of Eastern eggs are being received, but of poor quality. They are sufficient however, to prevent any marked increase. Quotations are higher than last week, but some claim no further advance will be made soon. There are also large quantities of storage available.

The prices given are those of the commission man to the retailer.

Eggs local candled.....23½@24
Eggs case count.....21½

The following are average prices which dealers pay to producers for live weight.

Hens, per lb.....12
Young roosters, per lb.....15
Fryers.....17
Broilers per lb.....17
Old Roosters.....7
Turkeys.....17
Geese.....12
Ducks.....10
Squabs per doz.....1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs, from 175 to 200 lbs.....7½
Prime steers.....4¼@4½
Heifers.....3¾@4
Calves, per lb.....4½@5
Sheep, ewes, per head.....4.75@5.25
Lambs, per head.....4.00@4.50
Wethers.....5.50

Potatoes.

The potato market is affected by the large offerings of poor stock. Market is now weak and lower quotations than last week.

Early Rose.....1.75@1.85
White.....1.90
Local Burbanks.....2.00
Sweet potatoes per lb.....12@12½

Onions.

Onions are coming more freely and the price is shaded slightly though a firm condition prevails.

Silverskins per ctl.....3.00
Australians.....3.25
Garlic.....9

Vegetables.

Asparagus lb.....12½
Artichokes.....65@80
Beets per doz.....30@40
Bell Peppers green lb.....20
Beans, wax.....1
Beans, green.....1
Cabbage, sack.....50@75
Cabbage red per lb.....72
Celery hothouse per doz.....75@1.25
Chili peppers green.....12½
Cucumbers per 20 lb box.....75
Corn per bx.....60
Cauliflower.....1.25
Carrots per doz.....30@40
Egg plant per lb.....6@10
Green Onions, doz bunches.....10@30
Lettuce per crate.....75@1.25
Peas, sugar, per lb.....4@6
Okra, per lb.....20
Rhubarb per box.....1.50
Radishes per doz.....15@20
Spinach, per doz.....10@15
Summer squash crate.....20@30
Tomatoes per basket.....50@75
Turnips, doz bunches.....40
Water Cress per hundred.....40

Citrus Fruits.

Valencias.....1.50@2.75
Navels.....1.25@2.75
Grapefruit Seedless.....2.00@2.50
Grapefruit Seedlings.....1.25@1.35
Seedlings.....1.25@1.50
Lemons, fancy.....2.00
Lemons, choice.....1.25@1.50
Tangerines, halves.....1.50@1.75

Fresh Fruits.

Movement of fresh fruits is very active and all offerings are quickly absorbed. Currants, cherries and loquats are practically off the market and closed out for the season. Apricots are nearly cleaned up

Apples Red Astrachans box....90@1
White Astrachans.....2
Peaches.....1.75@2
Crab Apples.....1.00@1
Apricots.....1.90@2
Blackberries.....2.00@2
Cantaloupes, crates.....2.00@2
Figs, black, per lb.....1
Figs, white.....1.30@1
Grapes, per 4 bskt crate.....1.30@1
Gooseberries per lb.....1
Logans.....1.35@1
Peaches, per box.....1.35@1
Plums Simonas.....1
Plums Tragedy.....1
Sugar Prunes.....1
Raspberries.....1
Strawberries.....1
Watermelons, per lb.....1

Dried Fruits.

Evap. Apples, fancy per lb.....8½
Apricots.....20
Peaches.....1
Pears.....1

Beans, Dried

Limas per ctl.....12½
Pink No. 1.....12½
Lady Washington.....12½
Small White.....12½
Black Eyes.....5.50@6
Garvanzas.....5.75@6
Lentils.....12½

Honey

The prices we give are those which the jobber sells to the grocer, small lots. The producer should take from this one cent a pound commission and freight to Los Angeles, there will remain the net returns to him.

Extracted White.....50
Light Amber.....12½
Comb, water white, 1-lb. fms.....12½
Light Amber.....100

Nuts.

Almonds per lb.....19
Peanuts, Virginia.....14
Peanuts California.....14
Walnuts, No. 1 S. S.....14

Hay.

Barley, No. 1.....14.50@15
Barley, No. 2.....11
Alfalfa Northern per ton.....12.50@13
Alfalfa new local.....12.50@13
Plain oat No. 1 new.....13
Wheat No. 1.....12

Grain.

Purchasing prices f. o. b., Los Angeles are:
Wheat, new, per cwt.....1.70@1.75
Wheat, Sonora.....1.52½@1.55
Barley.....1.17½@1.20
Corn, Eastern, sacked.....12

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn.....12
Shorts.....12
Bran.....12
Egyptian corn.....12
Rolled Barley.....12
Feed meal.....12
Kaffir Corn.....12

San Francisco Markets

SAN FRANCISCO, July 16, 1907

Butter.

Butter is quoted practically as usual. The tone of the market is much stronger, the better grades especially being sought.

California firsts.....22½
California seconds.....22
California thirds.....22½
Packing stock.....22½

Cheese.

California, Young American, fy.....1.50
California, flats, fy.....1.50
Eastern fancy.....1.50

Eggs and Poultry.

The stock of eggs is about out. However the price has advanced slightly since last quotation. Further advance may be slow but it is claimed to be sure.

Fresh ranch eggs.....1.50
Eggs, first, per doz.....1.50
Eggs, seconds, per doz.....1.50
Eggs, thirds.....1.50

Poultry receipts are light but there is a big carry-over stock from close of last week, on some of which dealers were willing to make concessions in price on round lots. Strong fancy stock, however, is held up to top quotations. The general inclination is for young roosters and hens of size and weight. The medium grade stock were very dull and in some cases sales were made at greatly reduced figures.

per doz.....	5.00@5.50
large.....	5.50@6.00
g Roosters.....	4.00@4.50
rs, per doz.....	4.50@5.50
ers, per doz.....	2.50@3.50
ts, young.....	4.00@5.00
e, per pair.....	1.50@2.00
ys, per lb.....	1.16@1.19
ns.....	1.25@1.50

Live Stock.

cs No. 1.....	7½@8
1 Cows and Heifers.....	6½@7
s, 80 to 200 lbs.....	7½
s 200 to 300 lbs.....	7
es, per lb.....	5
bs, yearlings.....	6@6½
ers, No. 1.....	5½
s, No. 1.....	5

Potatoes

atoes are being received freely	
a light weakness prevails in the	
of the market. As a rule the	
k is good.	
er Burbanks.....	2.25@25.0
er whites.....	2.25
ly Rose.....	1.50@1.75

Vegetables.

aragus.....	5@10
umbers per box.....	50@60
a, per sack.....	1.50@2.00
li peppers, green, lb.....	1½@3½
l peppers.....	7@8
plant.....	10@12
en peas, per lb.....	1½@3½
ash, per box.....	50@75
pers Green Bell.....	20@30
barb, per box.....	75@1.25
atoes, California.....	50@1.00
ing beans.....	1½@3
x beans.....	2@3
lie.....	2@3

Onions.

ions, new Reds.....	2.60@3.00
ions, Br Australia, per cti.....	3.50@4.00
ions, new Yellow.....	2.65@3.00

Citrus Fruits.

encias.....	2.00@4.00
dlings.....	1.25@1.75
pefruit, seedless.....	1.75@3.00
es.....	4.50@5.00

Fresh Fruits.

aches are in light supply and of y ordinary quality, while the prices held above the standard which ould permit them to figure largely the retail trade. Some very fair ck, however, is offering at \$1.00 per x. Apricots are very scarce and are d firmly at the quoted rates. Re- pts of grapes are light and the high ices at present ruling seem to be ll sustained. There is a small in- ury for Bartlett pears, but sales are t very extensive. Watermelons are ntiful and prices are marked lower. erries are rather scarce and fancy ck is extremely so. In the berry arket there is some inquiry for Lo- nberries and blackberries, both of hich are more steady in price than ey were. Citrus fruits sell rather owly with prices steady.

pples, per box.....	1.00@1.75
pples, new, per small box.....	35@50
pples, new, per large box.....	75@1.50
ab Apples.....	75@1.25
ricots, per box.....	1.50@1.75
ricots, per lb.....	5@7
ackberries, per chest.....	2.50@4.00
rrants, per chest.....	9.00
erries, per lb.....	12½
gs, 1 layer.....	40@65
gs, two layers.....	75@1.50
ooseberries per lb.....	8@10
rapes, per crate.....	1.75
ogans, per chest.....	3.00@6.50
elons, per crate.....	1.50@2.00
lums, per box.....	75@1.25
eaches per box.....	1.00@1.25
ears.....	1.25@1.75
aspberries per chest.....	3.50@7.00
rawberries per chest.....	4.00@6.00
atermelons, per doz.....	2.50@4.00

Dried Fruits.

pples (evap.).....	6½@8
pricots, per lb, new.....	22½@27
igs, white.....	4@5
runes, 4 sizes.....	4@4½
eaches.....	10@13
ears.....	8½@11

Beans, Dried

mmas No. 1.....	5.25@5.35
nk.....	2.30@2.50
arge White.....	2.40@2.65
lack Eyes.....	4.90@5.00
ed Kidneys.....	3.50@3.75
ayo,.....	2.85@3.00

Hops.

Hops, new, future delivery, per lb.....	9@11
Hops, old, fancy.....	9½@10
Hops, choice.....	7@9
Hops, common.....	5@6

Nuts.

Almonds, new.....	17½@18
Peanuts, California.....	5½@6½
Walnuts.....	12@16

Honey

Clear white comb.....	16@17
Amber.....	12@15

Extracted.....	507
Beeswax, No. 1, per lb.....	26@28

Hay.

Barley moves off in moderate quantities and oats are selling fairly well at quotations. There is a big crop of hay this season and heavy receipts are looked for during the coming few weeks. Some dealers say there will be further concessions in prices. Yesterday's advices from Chicago showed the speculative wheat market there to be rather quiet.

Alfalfa, local.....	10.00@13.00
Cat.....	16.00@17.50
Wheat, No. 1.....	18.00@20.00
Wheat, No. 2.....	13.00@15.00

Grain.

Wheat, No. 1.....	1.52½@1.55
Barley, No. 1.....	1.22½@1.25
Corn, small yellow.....	1.55@1.60
Corn, yellow.....	1.45@1.50
Oats, white.....	1.45@1.50
Oats, Red.....	1.60@1.75
Bran, per ton.....	19.00@22.00
Straw, per bale.....	60
Feed Corn Meal, per ton.....	32.50@33.50
Cracked Corn, per ton.....	33@34
Oil Cake Meal, per ton.....	40.00@41.50
Cocoanut cake, per ton.....	25.00@26.00

Citrus Market

LOS ANGELES, July 16, 1907.

Good midsummer prices are prevailing on all citrus fruits. Valencias are exceptionally in keen demand at best of prices.

Shipments.

Shipments of citrus fruits to date aggregate 25,100 cars of which 2779 are lemon. Last year this date 23,998 of which 3000 were lemons.

NEW YORK, July 15.—Market fifteen to twenty-five cents higher on Valencias. Other varieties unchanged. Weather hot. Seventeen cars oranges.

NEVELS—

Golden Rule, xc Riv Ft Ex Riv.....	3.70
Golden st Riv Ft Ex Riv.....	3.15
Golden Rule xc Riv Ft Ex Riv.....	3.50
Partridge xc Cal C U.....	2.40
Queen Bee xfy Q C Ft Ex.....	3.40

SWEETS—

Sweetheart xfy Highgrove Ft Ex.....	4.15
Our Pride xfy Highgrove Ft Ex.....	3.90
Eagle xch Highgrove Ft Ex.....	3.90
Ocean fy F H Speich & Co.....	4.90
Mountain Lion fy F H Speich & Co.....	3.70
Telmo xfy Sou Cal Ft Ex.....	3.20
Queen Bee xfy Q C Ft Ex.....	3.15
Royal ch Q C Ft Ex.....	2.80
Whittier fy Redlands Junc.....	4.35
Whittier ch Redlands Junc.....	3.80

VALENCIAS—

Signal xfy Stewart Ft Co.....	5.45
Solano o r Stewart Ft Co.....	4.85
S. S. ch S S Ft Ex.....	3.75
Partridge xch Cal C U.....	3.85
Titus Ranch xc San Mar Grs Pk A.....	4.30
El Toreador st San Mar Grs Pk A.....	4.60
Blue C fy Cov Ft Ex.....	4.85
Red C xc Cov Ft Ex.....	4.65
Clover xc Red O Gr A.....	4.20
Standard st Sd Nat O Co.....	2.55
Flower o r Upland Dist.....	4.95
Rose xfy Redlands O Gr.....	5.35
GRAPEFRUIT—Golden Flower, \$1.50; Flower halves, .95; Whittier, xfy, \$1.05; Whittier, ch, \$1.50.	

BOSTON, July 15.—Market firm: weather muggy. Six cars sold. Seventeen on track.

VALENCIAS—

Royal Knight, xfy R H Ft Ex Red.....	4.25
Independent fy Highland Dist.....	4.25
Florence fy J M Riley Azuza.....	4.05

NAVELS—

Lochinvar xc R H Ft Ex E High.....	3.50
Tunnel ch S T Ft Ex Fernando.....	2.65
Urchin st S T Ft Ex Fernando.....	1.90

ST. MICHAELS—

Floral ch S B Ft Ex Colton.....	3.70
Floral ch (halves) S B Ft Ex Col.....	1.65
Silver Buckle fy R H Ft Ex E High.....	1.80

SWEETS—

Urchin st S T Ft Ex Fernando.....	3.25
Tunnel ch S T Ft Ex Fernan.....	2.90

GRAPEFRUIT—

Silver Buckle R H Ft Ex E High.....	3.55
Independent seedless fy High Dist.....	2.15
Independent seedless c High Dist.....	1.90

CLEVELAND, July 15.—Market low on account of condition of fruit. Strong on Valencias. Weather muggy. Four cars sold.

VALENCIAS—

Eagle.....	3.95
Buffalo.....	3.55
Royal ch Q C Ft Ex Corona.....	3.70
Justrite Q C Ft Ex Corona.....	3.85

GRAPEFRUIT

Lyon I L Lyon Redlands.....	2.05
Sunset Q C Ft Ex Corona.....	.90
Royal ch Q C Ft Ex Corona.....	.80
Justrite Q C Ft Ex Corona.....	.75
Southern Butterfy Q C Ft Ex Cor.....	1.20
Justrite Q C Ft Ex Corona.....	1.20

SWEETS—

Tiger fy S B Ft Ex Colton.....	3.50
Squirrel fy S B Ft Ex Colton.....	3.10
Royal ch Q C Ft Ex Corona.....	2.65
Lyon I L Lyon & Sons.....	3.90
Tiger fy.....	2.85

LEMONS—

Quail xc O K Ft Ex On-Cu.....	4.85
Coyote ch O K Ft Ex On Cu.....	4.30
Golden Rule xc Riv Ft Ex Riv.....	4.60
Golden st Riv Ft Ex Riv.....	3.95

PHILADELPHIA, July 15.—Market firm. Weather warm. Three Valencias, one Sweet, five mixed and two lemons sold.

VALENCIAS—

Rose xfy Red O G A.....	\$5.10
Rose st Red O G A.....	3.45
Clover xc Red O G A.....	4.65
Old Oak st Tustin Pack Co.....	5.05
Mistletoe ch C C U Dist 18.....	3.25
Mistletoe ch C C U Dist 18.....	3.20
Mariposa fy C C U Dist 18.....	3.20
Marguerite xc C C U Dist 18.....	3.15
Wildflower xc C C U Dist 6.....	1.90

SWEETS—

Yankee Doodle Highgrove Ft Ex.....	\$3.30
California Orange Riv Ft Ex Riv.....	2.70
ST. MICHAELS—	
Our Pride xfy Highgrove Ft Ex.....	3.90
Yankee Doodle xc Highgrove F Ex.....	3.30
Humming Bird o r Riv Ft Ex Riv.....	3.95
Riverside st Riv Ft Ex Riv.....	3.10
Golden Rule xc Riv Ft Ex Riv.....	3.95
Producers, fy Redlands Or Pro.....	4.30
Aloha xc Redlands Or Pro.....	3.75

Frequently the Cultivator receives a letter from men who want some position on a ranch, or from parties who are competent to take charge of stock, fruit or poultry ranches. Very often we receive letters from parties asking us if we can furnish the name and address of some one competent to take charge of such property. Without we assume the trouble of making a special agency, it is impossible for us to keep track of those requests. We think that Mr. S. E. Gregg, of Riverside, who advertises for a man wanted to take charge of a poultry ranch, solves the problem

Man Wanted

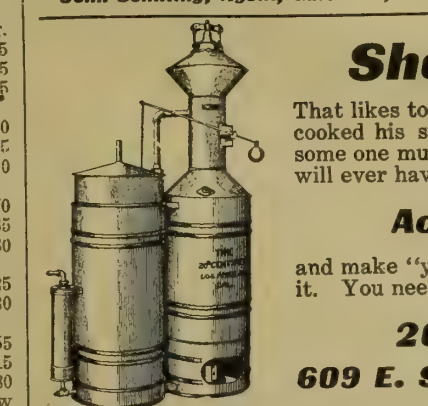
A Practical Poultryman to take charge of one of the best equipped chicken ranches in Southern California. Must be sober and industrious. To the right party a very favorable proposition will be made. Call on or write

S. E. Gregg
126 So. Adams St. Riverside, Cal.

The Auto-Fedan Manufactured by
THE AUTO-FEDAN HAY PRESS CO.
No. 28 Jefferson Street Topeka, Kansas



The only successful self-feed two-horse-power press made. Makes three strokes to the round. Feeder is attached direct to power, so it is bound to operate. Two men can run it. It is perfectly safe. Has a record for bailing over three tons in one hour. Satisfaction guaranteed.
John Schilling, Agent, Garvanza, Cal.



in the best manner possible. Mr. Gregg has a fine position for the right man.

For practical cow milking machine see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles.

LINERS

Liner Advertising
Advertisements in Liner Column 1½ cents per word. Eight words to a line. No advertisement taken for less than 25 cents.

EGGS FOR HATCHING.

AT REDUCED PRICES BALANCE OF season from by prize winning Barred Rocks; won all special and 13 regular prizes on Barred Rocks at late Los Angeles show. Eggs from best pens, \$2.50 per 15; \$10 per 100. Can furnish any quantity. Also offer extra bargains in breeding stock. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

WHITE PLYMOUTH ROCKS EXCLUSIVE- ly. The largest flock of prize winning birds in the West. At the late Los Angeles show, 1907, we won twenty-three out of a possible twenty-five prizes. We offer extra bargains in our this year's breeders. Will sell to suit purchaser. Eggs \$2.50 per 15; \$10 per 100. A. J. LITTLE, Monrovia, Cal.

McKINLEY POULTRY FARM—BREEDERS of Buff and White Wyandottes. Member American Buff Wyandotte Club. Golden Seabright and Pyle Game Bantams. Eggs \$3.00 and \$2.00 per 13. Take San Pedro Interurban Car to McKinley, first house north. BOX 11, R. F. D., Gardena, Cal.

S. C. WHITE LEGHORN EGGS FROM THE bred-to-lay Blanchard strain. Large Birds. \$1.00 for 15; \$6.00 per 100; Free city delivery. C. M. GIBBS, R. F. D. No. 4, Los Angeles, Cal. Phone W. 591.

DUCKS.

75C EACH. FOR SALE, 75C EACH. IN- dian Runner Ducks; Laying ducks one and two years old or young stock to lay in Oc- tober. CLYDE J. MOSS, Corona, Cal. Star route.

POULTRY FOODS.

ARMOURS BEEF SCRAPS. MEAT MEAL, and Blood Meal for poultry feeding are highest in digestible protein. If your dealer does not handle them write us direct. Cir- cular containing formulae free. THE AR- MOUR FERTILIZER WORKS, 736 H. W. Hellman Building, Los Angeles.

MACHINERY.

FOR SALE—ONE 10-H. P. OTTO ENGINE. Thoroughly overhauled and tested; at very low price. One 15-H. P. Fairbanks- Morse Engine secondhand; also one 25-H. P. Fairbanks-Morse Engine second hand. These engines are the equal of new in appearance and quality. We renew the manufacturer's guarantee for one year. WAITE, BAILIE, 943 N. Main St., Los Angeles.

FARM LAND.

Land that never fails to yield profitable re- sults, because only \$12 to \$25 an acre, with water forever 50c an acre per annum. Grain, alfalfa, sugar beets. Good markets and cli- mate. Fare rebated. W. R. GILSON, 418 S. Main St., Los Angeles.

JUBILEE POULTRY FARM, 80 ACRES, well improved, 2000 healthy chickens, horses, cow, implements, vehicles; 6 large incubators and brooders; pumping plant, \$7500 takes crops and all; a snap; easy terms. WM. MANTZ, Santa Maria, Cal.

FOR SALE CHEAP—NEAR STOCKTON, nice home, good climate, 40 acres sandy loam soil. Owner, E. I. VOORHEIS, Lath- rop, Cal.

TREES.

3000 GOOD, THRIFTY WASHINGTON NAV- EL and Valencia late trees; 1 and 2 years old; at the right price. Free of scale and smut. C. D. HUBBARD, San Fernando, Cal.

Show Me the Man

That likes to know that his wife chopped the wood that cooked his supper because he forgot it, or that she or some one must clean the lamps. She is the best wife you will ever have. Now have the best

Acetylene Gas Machine

and make "you all" happy. We have it and guarantee it. You need it. Write right now.

20th Century Light Co.

609 E. Seventh St., Los Angeles, Cal.

The Perfection Acetylene Generator

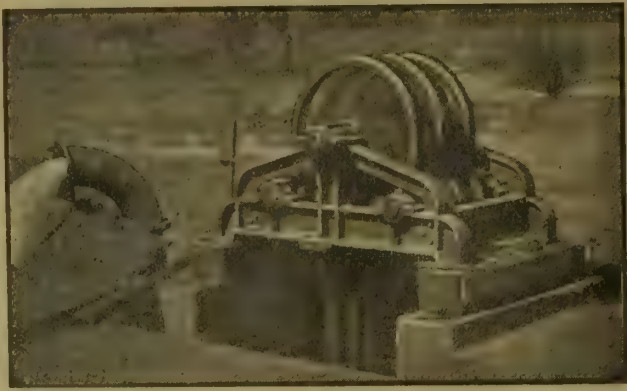
Is the Best, Cheapest, Safest, and Most Easily Managed Gas Ma- chine on the market. Allowed by all insurance companies.

Sold on Five-Year Guarantee as to Material, Workmanship and Operation. Have your own Gas Plant and be In- dependent. For printed matter, prices, etc., write

CRAYTON MANUFACTURING CO.

Room 1, Butler Building Long Beach, Cal.

Addison Double Plunger Pump Head



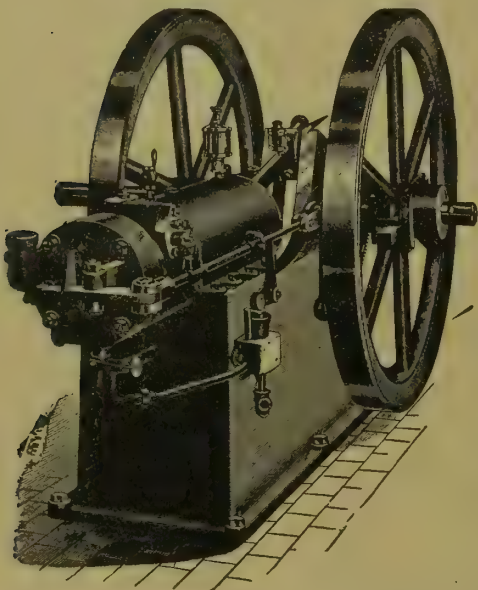
It will pay you to investigate the Addison before purchasing a pump. Send for Catalogue B.

Addison Pump Company

Phones: Home 91; Sunset, Black 1551

Cor. 1st and Cypress Sts., Pomona, Cal.

The Stover Engine



Another full carload.

Plenty in stock.

Let us take you in an automobile to see one run.

LIVINGSTON & LEE

953 NO. MAIN ST.
LOS ANGELES, CAL.

STEARNS GASOLINE OR DISTILLATE ENGINE

Has many points superior to any other engine.

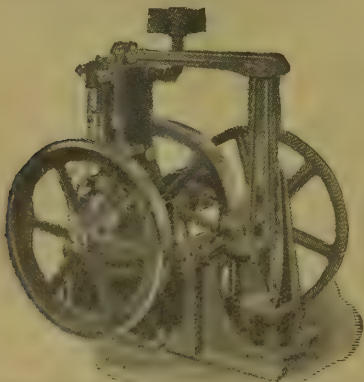
Hundreds In Use
Every One Satisfactory

Built for California cheap fuel.
For further information, write

STEARNS GAS ENGINE WORKS

1001-3-5 North Main St.

Los Angeles, California



A Handy Little Engine

Just the thing to run the feed cutter, the pump, the churn, the grinder, or anything on the ranch. It's well named

The Little Wonder

Write or call on

Wm. Gregory

602 No. Main St. Los Angeles, Cal.

National Wood Pipe Company

Woodward Pat. Machine Banded Pipe, Wheeler Pat. Continuous Stave Pipe, Bored Wood Water Pipe

Made from California Redwood **WOOD PIPE** Or Selected Puget Sound Yellow Pine

Puget Sound Office: Olympia, Washington

San Francisco Office: 268 Market St.

Los Angeles Office: Cor. First and Spring Sts.

Salt Lake City, Utah: 207 Dooly Block

A Booklet, "The Whole Story About Wood Pipe," mailed free upon request.



LET THE Simplex Separator

Do Your Skimming

GUARANTEED CAPACITY
LIGHTEST RUNNING
CLOSEST SKIMMING
EASIEST CLEANING
MOST DURABLE

The Largest Capacity for Money of Any Separator on Market. Hand and Power S

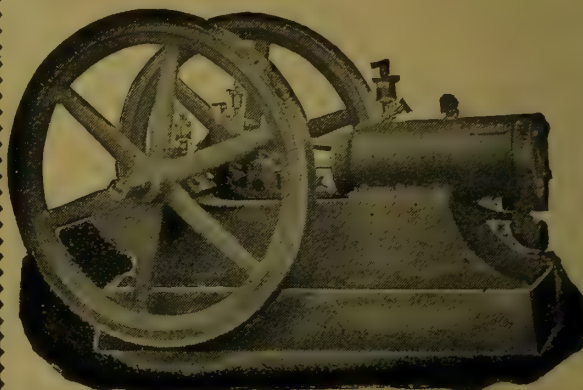
Everything for Creamery, Dairy and Cheese Factory. Write for Our New Price List S.



Baker & Hamilton

San Francisco
Los Angeles
Sacramento

Samson Gasoline and Distillate Engines



Are Strong and Durable

Fully Guaranteed in every particular
We make complete Irrigation Outfits

Samson Centrifugal Pumps Are the Best.

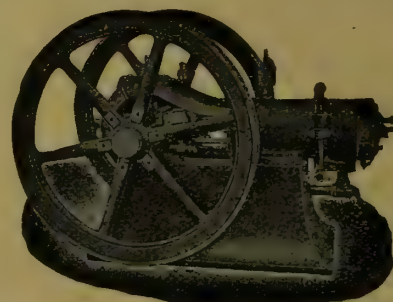
Enlargement of our factory makes it possible for us to make prompt delivery. Send for our new catalog and estimates.

Samson Iron Works

Office and Factory, 1100 to 1198 Aurora St., Stockton, Cal.

Branch: 920 J St., Fresno

553 S. Los Angeles St. Los Angeles



The Callahan Oil Engines

The Highest Grade Made. Won First Prizes at Sacramento and Porterville Fairs. Large stock on hand. Send for Pump and Engine Catalog.

G. W. Price Pump Co.

21-31 Jessie St., San Francisco

Branches - Sacramento, Visalia, Porterville

This Gun Has a Record of One Hundred and Fifty Gophers Without a Miss



Concession Can't Miss

Patented April 21, 1900

"SURE POP" CONCUSSION GUN

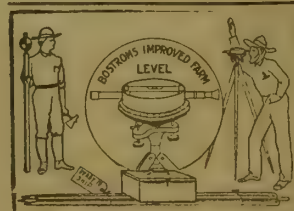
Price \$1.00 Post Paid
6 for \$5.00, 12 for \$9.00
Express Prepaid

Weight, 10 ounces. Length, 7 inches. Made of brass and will not rust. Shoots 38 Central Fire Blank Pistol Cartridges. Simple construction and a rapid exterminator of Gophers, Moles and Small Animals. Send for circular, a sample today.

John D. Keller, Manufacturer

327-347 W. Santa Clara St.

San Jose, Cal.



BOSTROM'S IMPROVED FARM LEVEL

Used for irrigation and drainage work. Cheapest best level yet invented for farm use. Has the patented improvements in simplicity and usefulness. Can be operated by any one. Price including scope tripod and target rod \$12.50.

PALACE HARDWARE COMPANY, Golden Gate Avenue, San Francisco Coast Agents.

Send for Circular.

500,000 FEET OF WATER PIPE

All sizes, Galvanized and Black, slightly damaged.

Special Price While It Lasts. Phone or write.

ADAMS PIPE CO., 603 Grant Bldg., Los Angeles, Cal. Phones: Main 1917, Home 1

When writing advertisers, mention Cultivator.

California Cultivator

Los Angeles

July 25 1907

San Francisco

Grading Potatoes in California



THE securing of seed for the fall crop is of importance, yet too little thought of by the ordinary planter. Any little "nubbin" will answer for seed, so it has an eye, is the belief of many. On this point, Mr. Bennett, the potato expert of the Colorado Agricultural College, writes:

The erroneous idea prevails among farmers that anything in the shape of a potato that will grow is good enough to plant. Sometimes the culls and badly-sprouted potatoes are planted and a good crop results. Sometimes a good colt or a calf comes from a poor, scrawny sire or bull. This does not prove, however, that such stock is profitable in the long run to breed from, and the law that "like produces like," is just as true with vegetables as with animals. Nature always attempts to produce a perfect specimen of any species, but this is hardly possible when the poorest specimens are used year after year for the parent stock. The same care should be exercised in selecting the parentage of vegetables that is used in selecting animal stock for breeding purposes.

The first thing in selecting seed, is to have in mind the most perfect type of the variety being handled. Pick out and save only

those tubers that approximate to the ideal type, and are firm and unsprouted. This will necessitate the handling of several times the amount of potatoes that it is desired to plant, but will prove a valuable investment of time.

The object to be attained in this selection is ultimately to increase the yield and improve the quality of the potato. That this can be done has been proved, for where selection was made from the hill at one of the government experiment stations and planted beside potatoes taken from the least productive hills, the results showed an increase of more than 200 per cent.

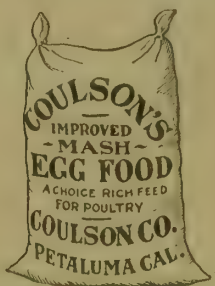
A word as to the handling of seed after selection from the stock may be timely.

After warm weather comes on it is difficult to prevent potatoes from sprouting and thus becoming weakened. If they are spread out thinly on the ground or floor of the cellar where they are exposed to the action of the light, this trouble will, to a large extent, be avoided. The seed will also be greatly benefited by the action of the light in "greening" the tubers, and also in destroying the fungous disease spores that are present in great numbers on the tubers.

Coulson's Improved Mash Egg Food

Takes Less Feed

Makes More Eggs



IF YOU WANT PLENTY OF EGGS THIS FALL AND WINTER when prices are high, you must lay your plans now. The hens must be given a strong feed which will enable them to get through the molt without loss of condition, and they will then quickly commence laying again.

First, see that your hens are healthy when they start to molt. At this time of the year, after a heavy laying season, they are apt not to be at their best, and a little of *Coulson's No. 3 Condition Powder* will put new life into them, and enable them to thoroughly digest and use the good food which they specially need.

At the same time, they must have the best food you can give them from the commencement of the molt. You will find *Coulson's Improved Mash Egg Food* is just what is required. It is strong in protein, due to the blood, meat, bone and oil cake meals which it contains.

Put Up in 90-lb. Sacks Directions in Each Sack

Your hens will not need to eat so much of the concentrated food to obtain the egg-making and feather-producing materials they need, thus saving their digestive organs and your pocket at the same time.

Coulson's Improved Mash Egg Food is therefore beneficial in two ways. Less feed is required and the hen gets just what she needs, with the result of a quicker molt and more eggs.

First cost is not everything, but even in this respect, COULSON'S IMPROVED MASH EGG FOOD shows to advantage. A 90-lb. sack will make a meal for 1250 hens. This is just over 2 lbs. a hen a month. Think how many eggs does it take to pay for this feed? In November, only 1 egg, and not more than 2 on the average.

We know what this feed will do by results on our own poultry ranch, as well as from testimonials from pleased customers all over California. What it does for others, it will do for you.

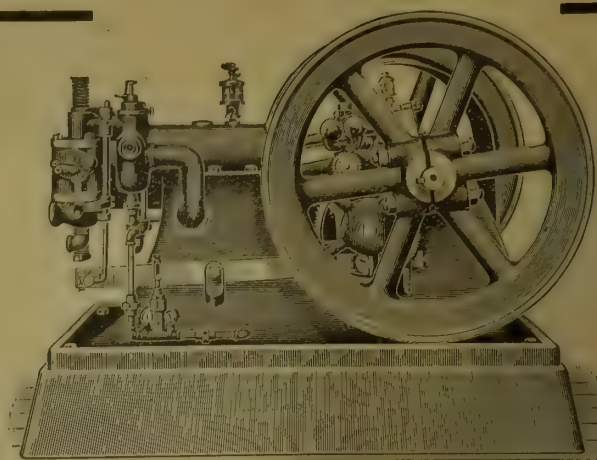
Give a trial order to your dealer; if he does not keep it, write to us, and we will either advise you where you can get it locally, or supply you direct.

Manufactured By

Coulson Poultry and Stock Food Co.
Petaluma, California

GERMAIN SEED CO., LOS ANGELES, CAL.
Distributing Agents for Southern California

AUTOMATIC?



Alamo Engines

Start so easily you think them automatic.
See them running in our salesroom.

SEE the DISTILLATE CARBURETOR SEE the POSITIVE IGNITER
SEE the FUEL-SAVING, WEAR-AND-TEAR-SAVING GOVERNOR

SEE OTHERS, BUT DON'T BUY UNTIL YOU'VE SEEN THE
"ALAMO"

Drop Us a Card

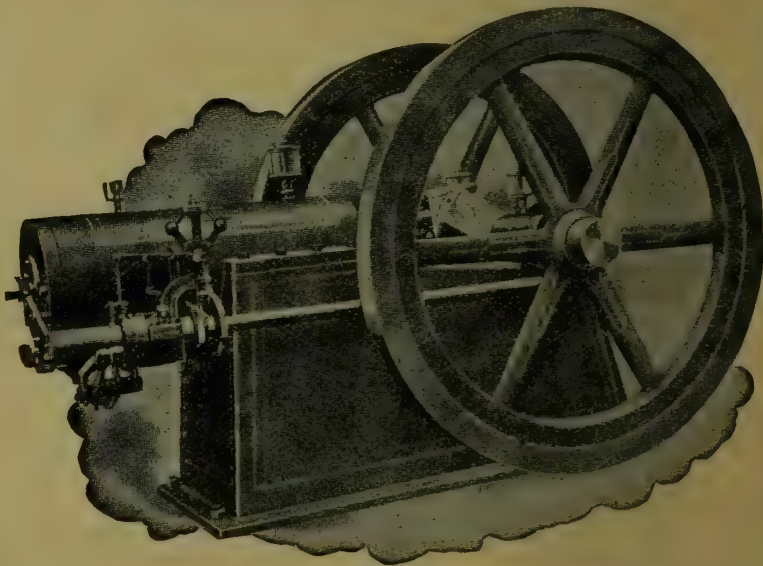
Norton Engine and Power Company
201-203 No. Los Angeles St., Los Angeles, Cal.

Columbus Engines

MADE BY THE.

Columbus Machine Co., Columbus, Ohio

Have stood the test fourteen years.



Here's a Good Word from a Man Who Knows:

Los Angeles, Cal., July 8, 1907.

To Whom it May Concern:

We have recently installed and now have in operation on our ranch near Anaheim a 60-horse-power Columbus Distillate Engine. This engine is belted up to a No. 6-2 stage pump, in a 90-foot pit, and is running along on an apparently easy load and pumping by actual measurement over 150 inches of water. Our fuel consumption has averaged so far four gallons per hour.

To the man who wants plenty of water, little trouble and economical engine, and one that develops the full horse power, we can cheerfully recommend the Columbus Engine.

We have had experience with high speed so-called big horse power engines, and know whereof we speak when we recommend the Columbus Engine to the public, knowing that it is a kind you can depend upon, free from all trappy devices, simple to operate and economical.

The writer has run a 10-horse Columbus Engine at Tropico, for the past four years, and can vouch personally for the above statement.

Trusting that this information will be a benefit to those interested, we beg to remain,
Yours very truly,

THE ANAHEIM PRODUCE CO.,
By E. B. Barry, Manager.

Greenleaf-Compton Co.

121 South Los Angeles St.

Los Angeles Cal.

California Cultivator

Vol. XXIX—No 4

Los Angeles, California, Thursday, July 25, 1907

Subscription \$1 a Year

"Green Bugs" and Their Destroyers

The Famous Little Insect Which Has Aided in Making
"Dollar Wheat" by His Depredations in Western Wheat Fields

THE papers have had much to say of the "Green Bug" and its depredations in wheat fields to the extent that threatened shortage of the crops caused a stiffening of the wheat market, at least it was one of the causes, and interest is strong as to the life of this bug. This bug is one of the plant lice family, so destructive to vegetation. The description here given is written by Prof. L. C. Riddle-Smith and appeared in the Kansas Farmer, to which paper we are under obligations for the engaving of the bug and its most destructive parasite.

Prof. Riddle-Smith says:

So much space in the daily papers has been devoted to the "green bug" and so many inquiries have been made concerning its identity that it is a pleasure to comply with the request to tell something of the life history, relationships, habits and enemies of this unwelcome visitor. The insect which has wrought such havoc this spring is known to scientists as *Toxoptera graminum* Rond. It belongs to the order Hemiptera. This order is usually subdivided into three suborders; the true bugs including the familiar water-bugs, bed-bugs, box-elder bugs, etc.; the parasites or lice; and the group including the cicadas, leaf-hoppers, scale insects and plant-lice, to the last of which *Toxoptera* belongs.

Description.

Plant lice are familiar pests in all parts of the country and on many different plants. They always do more or less damage especially when the plant attacked is of any economic importance. The exceedingly small size of the insects enables them to do considerable damage before they are noticed. They rarely attain to the size of one-fourth of an inch and many are only one-twentieth of an inch in length. They are usually green in color, especially if feeding upon the green part of the plant; and this is another reason they are so inconspicuous. The body is more or less pear-shaped; the wings, when present, are four in number, delicate and transparent, and the first pair is the larger. They have three small simple and two large compound eyes, slender antennae, and on the sixth segment of the abdomen is a pair of honey-tubes which give out a sweet excretion called "honey-dew," of which ants are very fond. This honey is produced in such abundance that the presence of aphids or plant lice can often be detected by the sticky spots under the tree.

Cared for by Ants.

It is reported on good authority that ants will carry the eggs and the adult females into protected places for the winter and in the spring replace them on their chosen food-plants and protect them from enemies, stroking them on the back with their antennae until drops of honey exude, and then gathering it. For this reason aphides are often called "ant cows."

The life histories of the different plant-lice are very similar. The adults may be winged or not. Just when to expect winged individuals is hard to predict. Often the males as well as the females are wingless. Males and egg-laying females usually appear in the fall. They mate and the female lays a few eggs which do not ordinarily hatch until the following spring. The females congregate during egg-laying; and this sometimes leads the observer to think that the

large number of eggs are laid by a single female, but careful observation has shown that one, two, or in some species four eggs produced by each individual is the usual number. From this fall-laid egg hatches a wingless individual called a stem-mother.

Some Hard Names.

There are various terms applied to this wee insect that are sometimes appalling to the unscientific because of their length and difficulty of pronunciation. She is said to be viviparous, parthenogenetic, agamic, apterous, etc. The term "apterous" refers to the absence of wings; agamic means that she is what is sometimes called a

the field throughout the entire winter if the season is not too severe. The usual number born from a single mother in one day varies from three to seven. Enthusiastic mathematicians have consumed much spare time figuring up the number of descendants from a single mother during one season, the space they would occupy if placed end to end or side by side, their total weight, etc.

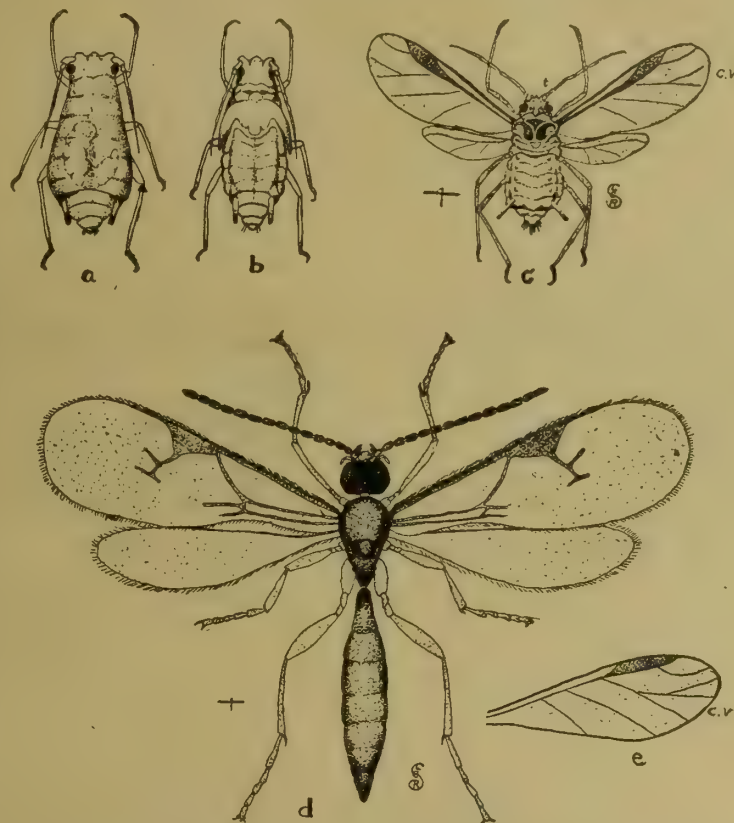
The insect now working on the wheat is not the only aphid that has done injury to wheat fields. There are three aphides which resemble each other so closely that chance observers would scarcely be able to detect the differences. The wingless individuals are still harder to separate. Entomologists, even, need the aid of a microscope to be certain. The three are known as *Aphis mali* Fab., *Nectarophora avenae* Fitch (*Siphonophora granariae* Kby), and *Toxoptera graminum* Rond. Prof. F. M. Webster has made careful studies of all three and found each and every one infesting wheat fields and not infrequently all three together, with one or the other predominating in numbers.

Aphis mali is known as the apple plant louse, but it does far more injury to wheat than to apples. The winged viviparous females migrate to the wheat when it first sprouts in the fall and feed near the ground on the stem. For the reason that it is of greatest injury to wheat in the fall, it is sometimes called the "fall wheat-louse." It can be distinguished from the other species by the absence of frontal tubercles on the head where the antennae are attached. This aphid lays its eggs on the bark of the apple tree and hence late fall and winter spraying of apple trees is beneficial to the wheat.

It is claimed by some field observers that *Toxoptera* can be detected by its black eyes and a light stripe down the back. The eyes, tips of the honey tubes, extremities of the legs, and outer two-thirds of the antennae are dark; and the normal position of the antennae, laid directly back, does give the lighter effect, without the actual stripe being present. Specimens used in illustrating were not striped to any marked degree, at least not so noticeably as the stripe that can be seen in the aphid on box-elder, which might be mistaken by the chance observer for *Toxoptera*, if much emphasis is placed on the striped appearance. Black eyes are not distinctive marks, either, for *Aphis mali* has black eyes and those of *Nectarophora* or *Siphonophora* are so dark a red that they might be easily mistaken for black.

Nectarophora avenae has long been known as the "grain aphid," and "wheat plant-louse," and has from time to time done much damage to cereals, more especially in the Middle and Eastern States. It has been described under various synonyms in both England and France, and is probably an imported species. It did much injury to the wheat in Illinois in 1866, again in 1876; and like *Aphis mali* appears in the fall of the year.

Toxoptera graminum Rond. was first described in 1852 by Dr. C. Rondani from Bologna, Italy, and was not known in this country for thirty years, hence it is also considered an imported



a, wingless female of *Toxoptera graminum* with larval parasite showing through body wall; b, pupa of *Toxoptera graminum* (note the wing pads); c, winged adult of *Toxoptera graminum*; c. v., cubital vein forked but once; t, frontal tubercle; d, *Lysiphlebus* sp. (female), the parasite most destructive of "green bugs;" e, wing of *Nectarophora* showing cubital vein, c. v., branched twice. (All from original drawings.)

"virgin mother" and produces young without union with a male insect; "parthenogenetic" is another way of saying the same thing; and the term "viviparous" means that the young do not hatch from eggs but are born alive.

Now this odd method of reproduction has been carried to a remarkable extent. These stem-mothers give birth to living young when about one week old, and these in turn mature in the same length of time. The period during which a female continues to bear young is usually from two to three weeks. Usually the offspring have no wings but after moulting three or four times during growth become mothers. Still we can nearly always find some winged individuals in a colony and these winged forms are the migratory females that seek new feeding grounds and facilitate the distribution of the species. The bringing forth of living young by virgin mothers has been recorded by European investigators through over one hundred generations without the occurrence of any males. It has been continued through over four years by Cornell University experimenters and occurs normally in

Deciduous Fruit Culture

ZANTE CURRANTS.

THE dried currant of commerce is not the dried fruit of currants as is frequently supposed, but is the product of a grape vine. Since the Thompson seedless has been so extensively planted in California, the market has taken large quantities of the dried product and the Thompson seedless makes a better quality of goods than much of the foreign material that is imported. The true Zante currant is grown in various parts of California, but not so extensively as the Sultana and Thompson. The latter is the most prolific of the three and makes the best looking dried fruit. The berries are larger and of an amber color.

The imported currants come principally from Greece and often the crop is damaged by rains during the curing season. This helps the California seedless grape growers during such seasons, but perhaps more benefit is derived by the California product getting a hold on the market. The product that is imported comes in barrels and with it sometimes a large amount of dirt. Even after such currants are washed they are unfit for use. This grade is of course, not the best or perhaps even the average, but it finds sale and the California product should and will in time take its place.

The true Zante currant is quite

widely grown in California and in some sections is very prolific. There are two varieties of this fruit, the white and black. The latter always bears a seedless grape of small size and can be relied on in this respect, but the black variety will often produce berries of large size and full of seeds. Often half of the berries on a bunch will be over size and full of seeds. It is worthless as a currant or for any other purpose.

While Thompson seedless is being placed before the consumer, as a substitute for the Zante, there is considerable difference in the flavor of the two. The Zante contains more acid than either Thompson seedless or seedless Sultana, which gives the peculiar tart flavor to cookery.

The California dried currant supply has heretofore come from the northern part of the State, but the desert regions have shown results that seem to forecast a strong competition with some advantage over the northern sections, in the matter of curing the crop.

NUTS.

The almond crop in various parts of the State bids fair to be heavy. No late frosts or unfavorable spring weather has interfered with the setting and trees which are seldom with a crop, are full this season. This is especially true in Southern California.

All nuts bring good prices every season and there is no reason why many irrigated farms growing alfalfa and various crops requiring irrigation, should not work in many nut trees along fence lines and irrigation ditches. We know of almond trees growing in the Sacramento Valley, that produce as large an income per acre as the alfalfa does. The trees provide shade for the stock during the hot summer and the nuts were gathered from the trees by knocking them off onto sheets in the usual manner without turning the stock out during the harvest season. We one time helped harvest a crop of almonds under these identical conditions. The almonds netted the farmer \$100 per acre that season and at the same time the land was used for alfalfa and stock. This is not usual, but it helps to keep the pot boiling. The trees were trimmed high so that the nuts could not be reached by the stock. We do not advocate handling orchards in this manner, but there seems to be no reason why pasture lands cannot be so handled with advantage to the grower. Stock should have shade and trees planted for shade can be made to more than pay their way.

When blighted portions are cut from twigs of trees they should be at once burned. The dead wood really contains no live blight spores, but the point where the living tree comes in contact with the dead part may.

FRUIT DRYING.

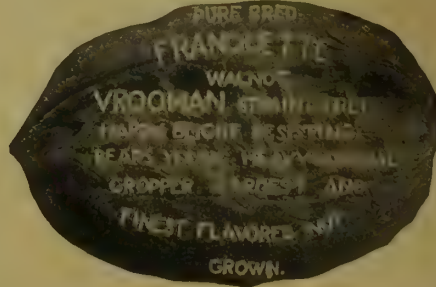
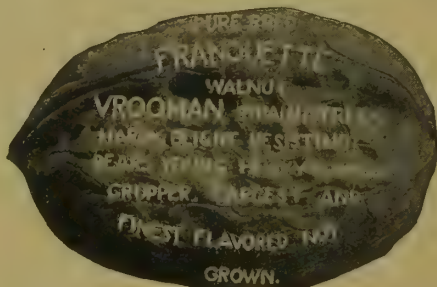
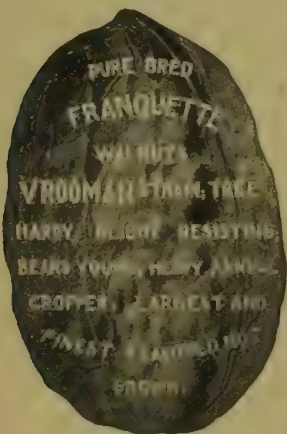
I have failed to see anything in the Cultivator about drying fruit. I am going to tell about my experience last fall and I have dried fruit for years, yet this was a lesson to me.

I risked putting in the bin a good many apples not thoroughly dried, thinking the ones that rattled would absorb the moisture from the wet ones. I found out that it is not a good plan when there are several tons in the bin. I believe it is good to have them so that they can be stirred occasionally. I did not leave room for this and was sorry for it afterwards.

I kept piling them up in a bin until I got ready to pack them, and the consequence was, when I got down to the middle I found my apples pretty soft, and some had moulded. Now, to look at the top of the bin they were the finest lot of apples I ever saw.

Do most people make a practice of stirring up their fruit, when it is in the bin and do people fumigate their apple houses to kill the worms?

I have heard people say they could not understand why their fruit became wormy so quick. I understand. It is because the old bins are full of worms all the time. If we tear one to pieces we will find them. They should be destroyed before new fruit is stored.—C. J. C., Sebastopol, Sonoma Co.



Record of Mrs. Vrooman's Franquette Walnut Grove Since It Began Bearing:

OREGON NURSERY COMPANY, SALEM, OREGON:

Gentlemen:

You ask me to give you a report of the increase of my Franquette walnut trees since they began to bear. Happily I have the figures at hand:

When 3 years old, 1901.....	82 lbs.
When 4 years old, 1902.....	520 lbs.
When 5 years old, 1903.....	3,700 lbs.
When 6 years old, 1904.....	6,000 lbs.
When 7 years old, 1905.....	12,325 lbs.
When 8 years old, 1906.....	24,314 lbs.

The output has practically doubled every year since the trees came into bearing.

(Signed) MRS. E. M. VROOMAN.

Walnutmere, Santa Rosa, Cal., Nov. 22, 1906.

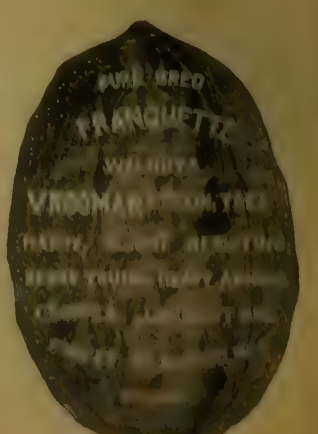
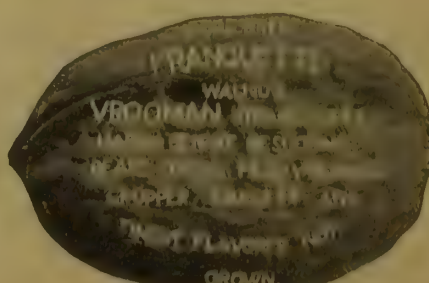
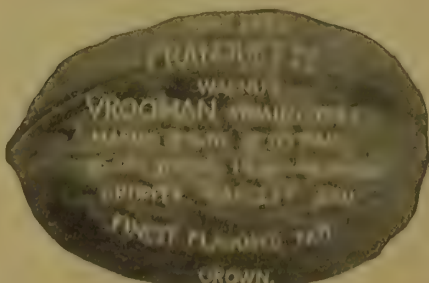
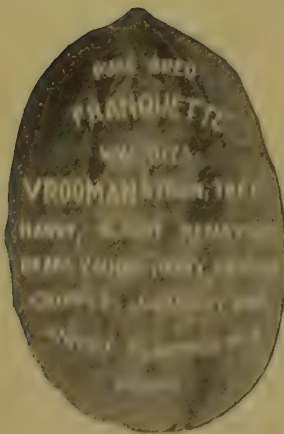
This 55-acre grove is planted with 1000 First Generation Franquette trees grafted in a direct line from the original Franquette tree in France and is the only large, grafted bearing walnut grove in the world from which seed stock and scions for grafting purposes can be secured.

We have contracted for the entire output of both nuts and scions for three years, which gives us absolute control of the product of this, the world's greatest, grafted walnut grove.

Last year, 1906, eight years from planting, we paid Mrs. Vrooman, \$6,140.-55 for the crop of nuts; over \$100 per acre.

Write for FREE BOOKLET giving full information of the LARGEST stock of FIRST GENERATION GRAFTED and SECOND GENERATION walnut trees in the world.

Oregon Nursery Company, Sole Propagators
Agents Wanted Salem, Oregon



REPORT ON PLANT DISEASES.

The Experiment Station Record refers to a valuable report made by Ralph E. Smith of work during 1906, the principal investigations having been made on pear blight, walnut blight, peach blight or shot-hole fungus, tomato diseases, and asparagus rust. In addition, investigations have been begun on rose diseases and citrus fruit diseases.

The pear blight work is largely in coöperation with the Bureau of Plant Industry of this Department, and consists in the application of the methods recommended by that Bureau. A detailed account of the investigations in the different counties is given. It has been found that thorough winter pruning prevents blossom infection in the spring, and that the larger the district covered in the winter the less will be the infection the following season. Frequent and prompt summer cutting is to be practiced, and if not exposed to extremely abundant infection, a pear orchard can be profitably maintained in good condition.

The walnut blight investigation has been a continuation of studies on the bacterial disease of walnuts due to *Pseudomonas juglandis*. Thus far the disease has proved difficult to control, as spraying experiments have not been very successful. The size of the trees made spraying almost prohibitive, on account of the difficulty and expense.

The beet blight described appears to be due to a derangement in the normal functions of the plant, and investigations seem to show that by attention to planting and cultivation in connection with weather conditions the disease may be largely controlled.

The peach blight or shot-hole fungus reported upon is due to a species of *Coryneum*, and spraying with Bordeaux mixture proved quite efficient in controlling it. In addition to the peach, the almond is subject to this disease, and probably the fungus will be found to attack other stone fruits.

The other investigations are briefly described, and the bulletin concludes with a list of the more common plant diseases that have been observed throughout the State, with notes as to their relative importance.

HOME-GROWN TEA.

The United States Department of Agriculture will shortly issue a Farmer's Bulletin (301) entitled Home-Grown Tea, prepared by George F. Mitchell, Scientific Assistant, Bureau of Plant Industry.

The bulletin describes briefly the methods of growing tea plants and the handling of the same for the production of tea. A practical method is described for the making of tea from the fine leaf, using only such pieces of apparatus as are found in every kitchen.

The bulletin will be of particular interest to persons throughout the South who may desire to grow tea for home consumption. It is illustrated by four text figures.

Copies may be obtained by application to the Secretary of Agriculture, or to Senators, Representatives, and Delegates in Congress.

APPLE SHIPPERS.


The thirteenth annual meeting of the International Apple Shippers' Association will be held at the St. Charles Hotel, Atlantic City, N. J., Wednesday, August 7th, 1907, for the election of officers for the ensuing year, and the transactions of any business properly coming before the meeting. There will be interesting addresses pertain-

ing to apple-growing, packing and marketing, committee reports, and discussions.

D. O. Wiley of Detroit, Mich., is President and A. Warren Patch of Boston is Secretary.

Now is the time to watch the yellowish white grub about one inch long which bores beneath the bark at the lower part of the trunk of the peach tree and about the roots. These grubs are larvae of winged insects, looking something like small wasps. If you see gummy material at the surface of the ground about the trunks of your peach trees, assume that the grub is working there. From June 1 to August is the season during which the grub is most active. Peach growers have learned to protect peach trees by removing the soil at the base of the peach tree, then winding stout paper about the lower part of the trunk as close to the roots as possible, thus keeping away the insects which lay the eggs which produce the grubs. But first the grubs must be removed that are already at work. Others place wire screens about the base of the peach tree.

The water-holding capacity of a soil depends largely upon its physical texture and is also influenced to some extent by the amount of organic matter present. For instance, a heavy clay soil containing a large amount of humus might hold thirty per cent of water and still be in workable condition, while sandy soil having ten per cent of water might seem very wet. It is, therefore, obvious that when success in dry farming depends upon the storage in the soil within the reach of plants of enough water to carry a crop to maturity, the water-holding capacity of the soil becomes a matter of the first importance.



Potash

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The fertilizer for Wheat, Rye and Barley should contain at least 6% Potash. Rather than risk an under-supply, mix Muriate or Sulphate of Potash liberally with the fertilizer before applying.

Send for our free books on growing grain. They won't give you theories, but facts on how the right use of Potash has turned poor soil into good soil, and made good soil better soil.

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20th Century Light Co.
609 E. Seventh St., Los Angeles, Cal.

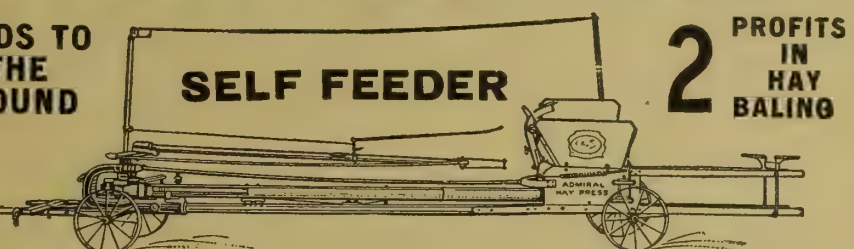
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2½ Tons per day for one week, 15 tons at \$1.50 net.....	\$ 22.50
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THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

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That is about what happens each year for the man who owns five cows and does not use a **Tubular** cream separator. He loses in cream more than the price of a good cow. The more cows he owns the greater the loss. This is a fact on which Agricultural Colleges, Dairy Experts and the best Dairy men all agree, and so do you if you use a **Tubular**. If not, it's high time you



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As we have dispersed our herd, except a few heifers for home use, we are forced to offer for sale this valuable sire. We will sell him at a low price to a breeder who is in a position to give this bull a chance to make a record.

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Live Stock and Dairy

BUILDING THE SILO.

(Continued from last Week.)

The Foundation.

FOLLOW line marked for circumference of silo, digging circular trench for the foundations. If the silo is to be put down five or six feet under the ground, then the entire circle is dug out for the cellar. If the silo is to stand on the surface, then throw the earth from the trench into the center to raise it a little. The silo that stands all above-ground should have a wall three feet high, two feet in the ground and one foot above the ground. The bricks or stones used should be free from dirt and plaster and laid with good cement. Bricks are soaked over night, and stones are put in wet. Then the cement grips them and all the mass becomes solid and unbreakable. Sills.

Under the last courses of bricks or stone, put in long bolts with wide heads and nuts on the other ends. Firmly fix the ends into the wall and leave them long enough to run through the sills. Place a bolt to every foot. This means two to each piece of sill. The sills are two feet long with the ends cut on a slant of sufficient angle to make them fall into a circle. By reversing every other piece there is no loss of lumber on these cuts. The sills should be cut and ready to be put on the brick foundation as soon as it is completed, bedding the sills into the cement while it is still wet. The bolt comes up through the sills and the nuts are screwed down holding it all firm.

Plates.

In cutting the sills I have the man doing this work go right on and cut the plates. Double the number of plates, or twenty-six for a twenty-six foot silo, while thirteen sills are required. I have the sills made from four by fours, and use two by fours for the plates. Commonly the sills are two by four made from the same stuff as the plates. This I know is heavy enough. I started to use two by four but was afraid it was too light and used heavier lumber. At that time having never put up a silo, I was timid lest I should not make it as strong as it should be to stand the strain.

The silos and barns were planned to meet the requirements of the ranch, not according to set plans. Now by studying and measuring the boards carefully it was possible to build with economy. The lumber was bought by the sloop load at the docks and often overran the amount needed so that by having a number of sheds and lesser buildings in mind a saving was made. For instance, a board or post that cut to the end of the stick would leave a piece of unusable size, by stopping half way would leave a post or plank ready cut for another building.

Studding.

After the sills are in place, space them every foot on the outside edge for the studding timber. Make a heavy black mark so that there can be no uneven spacing. These studding are two by fours, sixteen feet long, standing with the narrow side in. The half of the studdings may be fourteen feet long. Stand up a studding piece, toe nail it to the sill and have a man hold it in place until the opposite one is

in place, then nail a scantling across to hold them up, repeat this until enough are up to make a heavy square frame in the center. Do not trust a single studding to keep straight except it is nailed firmly. I have seen several silos built that this was neglected with the result that the silos are not true, the lining breaks every year, and are an annoyance and expense to the owners. Use good heavy spikes in toe nailing the studs into position, for the pressure comes on them at bottom.

Bracing.

The extreme importance of bracing well during the construction cannot be too strongly dwelt upon, else, like the Tower of Pisa, it will be a constant source of explanations until the people learn to accept its wobble and admire the Leaning Silo. The pressure inside the silo must be carried evenly or else it will not be strong enough to last long. These braces are nailed to legs and stand up inside the silo for scaffolding after they have been cut loose from the studs, so they should be carefully placed in regard to being near enough to put on the lining boards.

Lining.

The cheapest lining for a silo is fenceboards ripped down the center into three-inch stuff. Begin at the bottom and nail in a circle around and around until the first six feet are up. Then prepare for the doorway. Cut out two of the studding beginning six feet from the floor, take out four feet in length. Fit the pieces cut out across the top and bottom of the frame. Nail it firmly into place. Make a frame two inches smaller than the opening, stiffen it by two pieces of two by two down the center in a line with the cut studding. Set a couple of blocks on the center of the door frame and with a slat or two nail it firmly on the outside of the silo timbers. Have the inner side of the frame flush with the inside of the silo. Then continue the lining carrying the boards around and around, when the opening is reached nail the lining doubly around it and also nail it securely to the frame. Two feet above the first opening, make a second doorway in the same way. The first opening is six feet from the ground; doorway four feet—two feet of silo wall,—then second door—two feet more of wall—then a doorway. This allows for four doorways, I have it so in the present silo. Now, if I were building again, I think three would be plenty.

Studdings Lapped.

Nail the studdings on top of those in place allowing two feet for a lap. I say nail, but I have mine bolted. Put them on the sides not on the inside or outside. Carry the lining well up before putting on the plates. The first series of plates, stand the plate so that the ends do not rest on the ends of the studs. Nail securely. The next or second series put on so as to break joints with the first. Nail firmly and complete the lining to the top. The next thing is to tar the lining to the top with coal tar. This is applied hot, but if it cannot be readily done the coal tar is cut with gasoline and put on with whitewash brushes. I could not secure coal tar while building the round silo, so used the liquid asphaltum. It seems to have been successful as the silo has

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ated well. It did not dry readily and the tarred paper stuck to it as put it on.

Tarred Paper.

The next layer is tarred paper. Begin at the bottom and lap carefully the seams having the folds in the boards downward so moisture will not be held. Tack carefully at the ends, then shift a little further on each section so as not to have all the tackings come in a direct line. It is firmer when done this way. I cut the ends at a slant with the long end up so that no dampness is held in one spot. Tack securely where the frames of the doors are and along the edges, leaving a convenient line without nails or tacks to saw out. After the tarred paper is in place, put on the second series of boards, around and around, using a four-inch board at the bottom to start in with, will break the joints all the way up. These inner boards are usually good lumber and must be planed on the inner side.

Lining.

After the lining is in place before the final tarring it is better to saw out the doors. Saw these with a slanting cut between the edge of the door-frame and the door. The slanting cut is made leaving the longest edge on the inside. This makes them close more closely. Hinge the doors with a close hinge and shut them tightly into place. Then tar the inside completely over. I do not think it hurts to give the silo all the tar that is left; had two coats on the inside of mine. The gasoline used to cut the coal tar is simply stirred into the tar until it is thin enough to put on with whitewash brushes. It is quickly brushed on and dries at once.

Outside.

The outside of the silo is now ready to have the rustic. We did not find it necessary to put any tarred paper on the outside of the silo under the rustic. In the East it is customary to do so, to control the severe cold. The outside is planed six-inch house rustic in sixteen-foot lengths and is put around continually to the top. The boards should be stacked up loosely where they may dry out. Fit the boards well, using four nails in each studding and at the ends. If a board does not reach to the next studding do not nail a short block to the inner lining to nail it to; this is simply weakening the silo; cut off the end and nail it firmly to a stud. Fastening the ends of the outside boards of a silo is as necessary as a big hard knot in the end of the thread when the head of the house sews on a suspender button.

Doors.

When the door places are reached put in a frame the same as on the inside and nail right over it. After the rustic is on cut out the doors making them to open outwardly. A handle is screwed strongly to the outside doors to open them with. The edges of the inner doors have tarred paper nailed lightly on them, then the outer door is closed firmly; a heavy iron latch made at home is next put on the outside. On the round silo I have a second outside sill nailed for the door to close on more tightly. At the bottom near the sills and at the top on the outside, between studding bore a hole only through the outside rustic, to let out condensed moisture. The silo sweats like an ice pitcher in the cool weather.

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Roof.

Roof can be made as simple or as elaborate as desired. The simple roof is merely a series of slats. A prettier roof is by using a round piece of mill-work with a square base and nailing rafters to this cutting the ends on a slant so as to raise the center. This is shingled all over except a place large enough to hold a square dormer window. This is built on the ground like a large dog kennel and then put in place with its weight largely thrown on the silo wall, and on two rafters. Before putting on the roof all inside scaffolding is removed, only the outside remains in place.

Roofless Silos.

In California the silo does not need a roof as the rain that falls here is not enough to hurt the silage. The last fitting before painting the outside is putting on an outside ladder; this is best made of iron pipe and should be screwed to the studding at every round.

Painting.

The outside of the silo can be painted cheaply if cement and milk paint is used. Two pounds of cement, half a gallon of milk, and two pounds of powdered paint. Only mix a little at a time and keep it well stirred; paint it on with a whitewash brush. I have had some of this paint on a barn twenty years and it does not look any more shabby than a barn painted eight years ago with good oil paint.

THE MILKING STOOL.

More than one farmer's heifer has been injured by the absence of a proper milking stool. Sitting on one's toes becomes tiresome after a time and in the case of a heifer whose undeveloped udder renders the job of milking her a rather tedious one, the last end of the milking is pretty sure to get slighted unless the milker is in a fairly comfortable position. That means a spoiled cow presently. By the way, did you ever think how much unnecessary weight from the arm is thrown upon the cow's udder by using that ridiculous low stool? Just try a higher one and see if it is not a great deal easier upon the arms, then ask old Brin what she thinks about it.

HOLSTEIN-FRESIAN TRANSFERS.

COWS—Bonitette of Riverside, Chas. D. Pierce to J. H. Kaufman, Newman, De Natsey Baker, Chas D. Pierce to J. H. Kaufman, Newman.

BULLS—Prince Orleans Longfield, A. C. Demerit & Son to Leland Stanford Jr. University, Stanford University. Sir Josephine Abbeckerk Gerben, J. H. Williams to California Hot Springs Co., Hot Springs.

PLACE FOR THE LANTERNS.

A place should be provided in every farm building where lanterns are used or likely to be used. Stretch a wire along behind the cows and horses with sliding wire hooks onto which the lantern can be hooked and moved as wanted. A hook of cheap, smooth fence wire can be fixed up without expense almost anywhere, and it is much safer than a nail, as it will generally allow the lantern to hang straight. Be careful that no hay, straw or other inflammable material is near lantern hooks or other holders. Don't set a lantern down.

H. Miehle, a large dairyman near Venice, has just received a car of fine Holstein cows from his ranch at Newman, Stanislaus county.

For practical cow milking machine see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles.

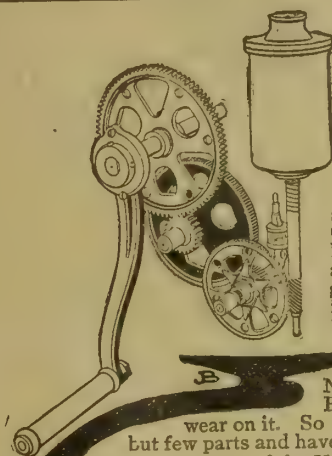
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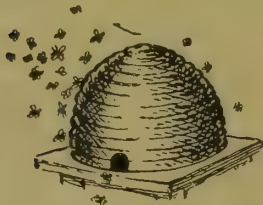
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The Ornamental Garden

PALMS FOR THE HOUSE.

WHILE many of the palms and ferns are admirably suited to culture in the living room, the mistake is frequently made of obtaining those that will not do well in such locations, the novice probably basing her choice on specimens seen in the windows of the florist, and forgetting that such plants were only brought to such perfection in the temperature of the greenhouse and in skilled hands. Since the introduction of the Boston fern, *Nephrolepis exaltata Bostoniensis*, lovers of this class of plants have had greater success and certainly no plant is more easily cared for nor gives greater satisfaction in the living room. It will stand considerable rough handling, and is quite as attractive in the summer for veranda decoration as in the winter used on the tables and stands.

The kentias among palms are peculiarly suited to the home. They are scarcely ever attacked by insects, and even gas, coal and illuminating—the bane of most palms—fail to injure them seriously. Notwithstanding the sturdiness of the class, the foliage is graceful, of a pretty shade of green, and always attractive. Kentia Belmoreana is the best known of the class, although Kentia Fosteriana is quite as attractive, being of taller growth and not so spreading as the first named.

In growing palms considerable moisture is needed at the roots, although the soil should not be allowed to become soggy at any time.

ORCHID BRINGS NEARLY \$8000.

In a London exchange a note that a romantic page in the history of orchid culture was closed at Messrs. Protheroe & Morris' auction rooms, when an original plant of *Miltonia Vevillaria Memoria G. D. Owen* and two parts taken from it together realized the sum of £1375 and 10s.

The plants were scarcely more than six inches in height and were quite insignificant looking. They formed part of the "Clara Lawn" collection of the late Sir Frederick Wigan, the three days' sale realizing a total of £4590.

The plant, of which only three specimens exist in any collection, has gained all the highest orchid honors. It is the most wonderful variety of *Miltonia* ever seen, and the wonder of it does not consist in shape or coloring so much as in the fact that in the middle of it is an almost perfect butterfly form, apparently painted on the flower.

The curious resemblances of many orchids to common objects, such as bees, spiders, screws and tresses, consist in the hap of the flower, but in this case the sepals and petals of the flower bear an imprint, and the effect is of a velvety purple butterfly settled on the rich rose ground of the flower.

In eleven years this *Miltonia* had multiplied in value thirteen times. Its history is almost sensational in the light it throws on orchid culture as a speculation.

Messrs. Sander of St. Albans, received one very small plant among other mixed orchids, from their orchid seeker in South America in 1896. They named it after G. D. Owen, a famous collector of bygone days, and sold it for one hundred and five pounds to Sir Frederick Wigan. In

the course of time Sir Frederick divided the plant into three, and the sequel was the 1375 pounds and 10 shillings obtained for the three portions.

It is a curious fact that Messrs. Sander, who, eleven years ago, sold the original for 105 pounds bought back a third of the plant for 441 pounds.

BREEDING FLOWERS.

I have for some years endeavored to procure a double quilled purple dahlia and some four years ago found among my harlequin dahlias one that seemed to me would answer the purpose. It was separated from other dahlias of its own kind and placed among the darkest shades procurable. It responded magnificently so that I have had for three years a double quilled purple dahlia in which every quill is perfect, each one rolling back on the stem making a perfect ball.

By practically the same method with gladiolus, by taking a light canary color and placing it among lighter colors as far as possible and especially among those having a tendency toward green, I now have in my collection a gladiolus that closely resembles the calla lily in color, the flower being a light green on the outside shading down on the inside from almost a white to a golden throat.

These little experiences are not expensive and prove highly gratifying to me as I think they would to others who may be willing to take pains to watch the development of their various flowers and bulbs.—Farmers' Tribune.

CALIFORNIA EUCALYPTS.

Arrangements have been made by the government to continue the investigations upon the California eucalypts under way at the forest service timber testing laboratory at the University of California. A shipment of 104 logs of the different species of eucalypts which have been introduced into California has been secured. This material was cut from the Cooper and Bishop estates near Santa Barbara. The eucalypts are natives of Australia, but seem very well adapted to the climate of Central and Southern California. The wood is dense and strong, and gives every indication of being suitable for many of the uses to which Eastern hardwoods, such as hickory, oak and maple are now put. In addition to these valuable mechanical properties, the tree has a very rapid growth.

CHRYSANTHEMUM GROWER GONE.

"Billy" Marugg whose magnificent chrysanthemums attracted much attention at the last two Southern California Horticultural society exhibitions, died at his home in North Pomona in June.

Mrs. Marugg, his mother, will continue his work of growing more of the floral beauties and asks that her son's old friends continue to send orders for cut flowers and plants.

Allow six inches space for all the ordinary small plants, such as pansies and daisies, and twelve inches for geraniums and other plants of equal size. Verbenas can safely be planted sixteen inches apart and salvia eighteen inches to two feet. Cannas should have a distance of two feet or more.

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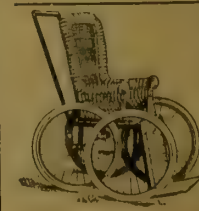
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The Vegetable Garden

APHIDE.

THESE pests are destructive in spring and early summer. They are winged and spread with amazing rapidity over vast areas. Later they become wingless and as they never that state leave the plant on which they are located are necessarily con- sidered to it and live and die with it. This is in this wingless state that the larva of the lady bug (convergents), attack them and usually work their complete destruction. It happens sometimes, however, that a few melon and other plants have been overlooked the pests. If such remain af- ter the first of July they are safe as this time, the ladybug larva have hatched in the mature ladybug and no second brood appears the aphide is safe. But as they are unable to transfer themselves from plant to plant the field is compara- tively safe also, until about the twentieth of August, when the aphide again grow wings and from a few infested hills will cover in less than two weeks all the field. To pre- vent this it is necessary to uproot the infested hills letting them lie where they stood after first fastening them with a little earth so the wind cannot blow them over on the unaffected ones. The aphide stick to the plant like grim death to a nigger and per- haps with it; be sure to uproot the "infected" plant before the aphide get growing wings again.—J. C. Oster- ard.

CUCUMBER BEETLES.

The pest of cucumber beetles seems to be more prevalent this year than usual, and many queries have come regarding them. We quote from the Journal of Agriculture regarding treatment for this pest:

Where only a few cucumbers are grown for home use, the most practical method of preventing the assaults is to cover the vines. Take a barrel hoop, and cut it into two equal parts, or semi-circles. On each side of the plant set one of these half hoops so the circle will extend upward. Over these two bows throw a piece of cheap mosquito netting, covering the edges with a little dirt so the beetles can not pass under the netting to the plant. In this way they can be kept from the vines.

Of course where the grower has more than a dozen plants, this method will not be practical. For the large grower most authorities suggest the application of a number of different sprays, but the writer never had much success with sprays. After kill- ing a number of the beetles there would seemingly be as many of them as before and if the plant were not kept covered with the spray from the time the beetles first appeared till the fruit was gathered, the beetles would destroy it between the spray- ings.

One of the most popular methods of destroying or driving beetles from the plant is to keep it well dusted with air-slacked lime. The application is made in the morning when a little dew is on the plants, and if necessary, is repeated every morning, enough be- ing applied to make the leaves and the ground quite white. It is claimed that the beetles will leave at once.

HOW HE FIXED IT.

A crafty old farmer named Glenn, of harvest hands needed 'bout ten. He got from the city A cook who was pretty He easily hired the men.

HAND PICK SQUASH BUGS.

The common squash bug, or "stink bug," as it is often called because of the strong, fetid odor which it emits, is the worst pest of our winter squash and pumpkins. It is a very difficult insect to kill by the ordinary use of insecticides. Early in the season when the bugs are gathering about the hills of squash, the plants should be visited each morning for the purpose of kill- ing the bugs that may be found upon the under sides of the leaves or be- neath pieces of boards or chips that have been placed about the hills.

At this time of the year the young squash bugs are usually found accu- mulating upon individual leaves and may be destroyed in large numbers by brushing them into a bucket of water with a spoonful of coal oil or kerosene on top. The work should be done early in the morning before the bugs have become warmed so as to become active. I do not believe that it is prac- tical to destroy these bugs with any kind of spraying.—C. P. Gillette, Col. Agr. College.

A GARDEN HINT.

A subscriber at Sebastopol sends the following hint of value to garden- ers:

I find it almost impossible to start my plants without old cans around them. Some one suggested paper for protection. I don't see how any one makes a success of that when we al- ways have rain after the plants are transplanted. Anyone knows what rain does to paper. The can not only seems to keep the cutworm away, but there is a small black bug which eats the leaves, and is prevented from reaching them by a web that in a very short time is woven over each can. After the plant gets thrifty and has a strong fragrance nothing will molest it.—C. J. C., Sebastopol.

BLACK ROT IN CABBAGE.

Perhaps one of the most serious dis- eases which attack the cabbage is stem-rot or black rot. The first symptom of the trouble is a one-sided growth or a dwarfing of the heads; or if the disease got a start very early in the season, there is an entire absence of the head. In the worst attacks of the trouble the plant dies. When the heads rot and fall from the stem, the rotted portion is soft and foul smell- ing. If the stubs are broken or cut through there will be noticed a brown or black ring on the interior. The bac- teria which cause the disease enter the plant above the ground, usually through wounds made by insects known as water pores.

At this time of the year there are but two practical remedies. One is by removing all infected leaves and destroying them. All leaves, whether infected with this or other troubles, should be removed and burned. Any leaf that shows a pale yellow color may be classed as "infected" with some kind of a disease, and should be destroyed. The other remedy is to dust with "dry Bordeaux" to which has been added some good insect powder. The Bordeaux will not only have a tendency to hold the trouble in check, but the insect powder will destroy all cabbage-eating insects. Next year a rotation of crops should be practiced which is the most ef- fective and practical of all remedies.

There is always room at the top if you can push the other fellow off.

Great Western Manure Spreader with Endless Apron

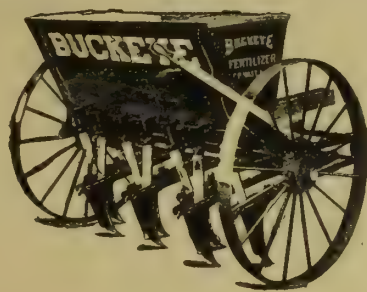
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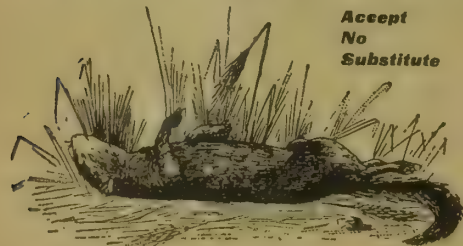
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California Horticulturally

COAST NURSERYMEN AND CHERRY GROWERS OF OREGON.

THERE was recently held in Salem, Oregon, a cherry fair and a convention of the nurserymen of the Pacific Coast. Both events coming together, attracted a large number of people, not alone from Oregon, but from all the surrounding States.

In connection with the Nurserymen's Convention, there were representatives from the State Horticultural Commissions of Oregon, California, Idaho and Washington. The event brought together three classes whose labors and interests are identical—the fruit growers, the nurserymen and the horticultural commissioners and inspectors. Very many matters of importance to the fruit industry as a whole were considered, many points of difference explained away, and, as a result of this joint meeting, there has been established a feeling of harmony which cannot but result in better work and better results.

The local feature was, of course, the display of cherries, and it was one of unequalled merit. The Oregon cherry season is much later than that of California, the great bulk of the crop there coming in after the greater part of ours has been disposed of, but over a great part of the State conditions are especially favorable for this fruit and the display here made, indicated at a glance what could be done.

The Oregon people have hit upon one attractive feature, that of making mass displays. The commercial advertiser appreciates this and the show window decorator knows that there is nothing will win the public eyes so quickly as a mass display of any object. So, in her fruit fairs, Oregon has apple fairs, cherry fairs and other displays of specialties and they attract attention when a mixed display would confuse the spectator and the desired effect be lost. It is this which makes our citrus fairs always so taking and which is lacking in the general display of the country fair.

Here we have masses of cherries; cherries of all varieties in competition on their merits and certainly it would be difficult to bring together a more attractive display or a display of finer fruit.

The most attractive varieties shown were Bing's Lamberts, Royal Annes and Black Republicans. These are all well known varieties and we have never seen them surpassed for size, color or flavor. Cherries as big as plums. It is said that we should not make two bites of a cherry, but many of these would require three. There were cherries of all kinds; white cherries and black cherries, choice varieties and seedlings, Mazzard seedlings for grafted stock, and in short the display covered the whole line of the cherry family.

A large number of premiums, chiefly silver cups of varying size and value, had been offered for the best specimens of different varieties, best packs in boxes, cartons, etc., and for all of these there were several contestants. The judges were Prof. C. I. Lewis, of the Oregon Agricultural College; C. A. Tonneson, Editor of the Northwest Horticulturist, of Tacoma; and G. R. Castner, of Hood River.

When a fellow gets to be boss—well, he'll do about as his boss did. Sometimes worse.

VALUE OF CULTIVATION.

The need of cultivation is in the first place, to improve the condition of the soil; particularly to render more open and porous, so that it can absorb more rainfall and permit the roots to grow with the least possible resistance. When you cultivate you increase the apparent volume of the soil; that is to say, if you dig a hole in the soil, as in preparing for a fence post, it is a very difficult matter to push back the soil that you take out. When you loosen the soil by plowing or harrowing you leave it in a much more bulky form and it absorbs much more of the rainfall, not only because it contains more volume of space for the water to occupy, but because the grains of soil being pushed apart there is actually more surface to hold on to the water. The effect of subsequent cultivation is to dry out the surface by exposing it to the air. We used to say that it was to break the capillary connection. You can not thus break the capillary connection in the soil, for when you put the soil back you have reestablished capillary connection; but this is what you do accomplish: The moist soil, so long as it is not actually wet, holds on to the moisture so tenaciously that it will not move up to any appreciable extent into the dry soil. If we have the surface soil dry, so that water will not come to the surface of the land, then the evaporation of water will be confined within the soil, and the vapor so formed will have to diffuse out through the dry layer, which is a slow process. The water will not be delivered at the surface of the soil where evaporation is most rapid. The loss of water by evaporation within the soil at a depth of three or four inches is exceedingly slow.

The later, then, that cultivations are continued, the better it will be for the crop of corn.—Prof. Milton Whitney in Journal of Agriculture.

FUNGUS AFFECTED PLUM TREES

We recently published an inquiry from a subscriber at Fresno regarding fungus-affected plum trees. On the same point Mr. Isaac writes:

The fungus is not shot-hole, although belonging to the same class of diseases. Nothing can be done at this time to cure it, as all possible damage has been done when the disease shows itself in this form. The only remedies must be of a preventive nature, and there is nothing better for fungus disease than Bordeaux mixture. Your correspondent states that he used this last winter without effect. In this case he probably did not use it in proper proportions or at the right season. The trees should be sprayed as soon as possible after they have shed their foliage in the fall, or even while it is falling, a second spraying just before the buds start in the spring will also assist for other forms of fungous troubles. Full strength Bordeaux should be used.

Wormwood, from which absinthe is extracted, is grown more extensively in Wisconsin than in any other part of this country, according to statistics. Absinthe is an oil having a very stimulative principle and is used in making liniments and in mixing beverages in saloons. Just a drop or two of the pure article in a glass of whiskey is said to put the drinker in a very hilarious condition, and the effect of continued use is accordingly disastrous. There is a secret in the growing of wormwood which is carefully guarded by growers, and the plant must be cultivated and harvested properly to produce a paying amount of oil.

With the Citrus Growers

GYPSUM.

AN orange grower asks for comparative value of gypsum and lime for correcting unhealthy soils. Soil conditions are not favorable when nitrification is retarded and this is always the case in acid soils. Most of our soils devoted to orange growing are alkaline, as is evidenced by the areas that have become excessively alkaline through drainage from the groves. Nitrification takes place more readily in slightly alkaline soils. Partially decomposed vegetable matter produces an undesirable condition of soil and is readily corrected by the use of carbonate of lime, potassium carbonate and sulphate of lime (gypsum). Quick lime retards the process of nitrification for awhile, but as soon as the slacking process is completed the effect is favorable. Wood ashes which contain carbonate of lime and (ash) have a beneficial effect. Gypsum, however, is the best. It is twice as effective as sodium sulphate of potash and eight times that of carbonate of lime.

Whatever element is used to promote nitrification, it must be effective to some depth below the surface, sunlight is known to be injurious to it. In the manufacture of nitrate, it is a well-known fact that absence of sunlight is necessary, though electric light has no effect. Quick lime is more effective on sour peat lands than is slacked lime.

PROTEIN.

Protein is a term used in agricultural chemistry to denote a group of elements in which nitrogen is an important part. The elements contained in protein are about 55 per cent carbon, 20 per cent oxygen, 16 per cent nitrogen, 7 per cent hydrogen, one per cent sulphur and less than one per cent phosphorus. Protein enters into all plant and animal life as a quality of unit or combination of the above named elements by itself. It has an important part in making up the value of a green-manuring crop as it is one of the sources of nitrogen. It is thought that protein is taken up directly and used as plant food, but not from the exterior of the plant. It is an important part of the seeds which give up this material directly to the new plant as it emerges from the seed cell. A parasitic plant takes it from its heart, etc. This latter is apparently closely related to the condition existing between the tubercles on lemons and the legumes themselves. It is almost certain that the protein contained in one plant cannot be used by a plant that grows and takes nourishment from the soil, until it has gone through the changes following decomposition. As a food for animals, it is quite different as it is used directly from the material used as food. It gives different results under different conditions. The firmness of Jersey butter, for instance, is attributed to the larger amount of protein contained in it.

A WRECKED HOME.

Mrs. Youngbride (sobbing)—That horrible Mrs. Falsetop has broken up my home.

Horried Friend—You don't mean to say she has enticed away your husband from you?

Mrs. Y.—No-o-o! It's worse than that! It's the cook.—Baltimore American.

MULCHING FRUIT TREES.

The following article, by a writer who has studied how to grow fruit with profit on rough land, may be read with interest by all who have rocky, hilly places on their farms which produce little or nothing if devoted to ordinary field crops, besides each year growing less productive from the washing away of the soil when cultivated. He says:

There is a great deal of rough land in every state that is especially well adapted to fruit growing, but owing to the nature of the ground it cannot well be cultivated. It is on such land that mulching is especially valuable. Mulching is nature's plan of growing trees. Just so long as the leaf crop in the fall is permitted to accumulate in the woods sufficiently to keep the grass down and to keep the ground moist the forest will reproduce itself.

A fruit tree may be planted on a ledge on a hillside and mulched with brush, leaves, straw, weeds or almost any trash that will rot down and hold the moisture, and that tree will grow luxuriantly and bear a crop of fruit every year. There are rough locations where both air drainage and water drainage may be secured which are valuable enough to pay handsomely for the extra labor in carrying mulch to the tree.

One thing should be remembered, that mulching draws the little feeding rootlets to the surface. The root habit of a mulched tree is different in this respect from a tree that has been cultivated from the time it was planted. For this reason it is necessary to keep the mulch growing year after year. Otherwise the roots that have formed at the surface will be destroyed if the ground is permitted to dry out, because the sun will burn the roots and kill them.

Mulching, to be successful, must be attended with a little hand cultivation near the trunk of the tree every spring. The ground is moist and soft and it may be dug up easily in March and April. Then as the season advances and the soil becomes dryer new mulching material must be added to take care of the tree during the dry time in the summer. The mulch should be placed around the tree early enough to catch the early rains and there should be enough of it to hold the moisture from every rain that falls, so that no water can run away. Apples require a great deal of moisture. To prevent field mice from girdling trees in winter the mulch must be pulled away in the fall and the tree hilled up with earth.—Colman's Rural.

THE FOOD VALUE OF FRUIT.

Fruit enters to a large extent, in some form or other, into the diet of every American family. There is no question but that, as a nation, we grow and consume more fruit per individual than any other nation. Yet the amount per capita is not as high as it should be. Some would have us use a fruit and nut diet entirely, but we are not quite prepared to agree to this. There is no question, however, that it should always form a goodly portion of each day's bill of fare.

The acids—malic, citric and others—are agreeable and refreshing at all seasons, and particularly so in the warm weather of the summer months. Sugar is generally present in considerable quantities, and in the

form in which it occurs in fruit, is easily digested. Salts of iron, lime and potash, though present only in small quantities, are very beneficial. Oils and fats are contained in most fruits only in very small quantities or not at all. There are two fruits at least, however, in which considerable fat is found. The avocado (Persea gratissima) sometimes analyzes as much as 17 per cent fat, and the olive has about the same fat composition. On the whole, fruits are rich in carbohydrates and lacking in protein. Hence they are valuable in providing energy to run the human engine, though of comparatively little value in building up the tissues. Nuts, on the other hand, are rich in protein.

Aside from their value for food, fruits have a very splendid effect on the digestive tract. They tone up the system and assist materially in enabling the stomach to digest other foods. Generally, they contain large amounts of water (about 80 per cent average) which, altogether with the large amount of crude fiber generally present may account in a large measure for their beneficial action in aiding digestion. Besides this, nearly all fruits have a distinct value as appetizers. This is particularly true of the pomelo or grapefruit, the orange, apple and pineapple.—Fruit and Nut Journal.

SENSIBLE SUGGESTIONS.

A correspondent of Home and Farm gives the following good advice:

If one is going into orcharding as a direct occupation and expects to devote his whole time to it, it is better to have a fine orchard than one of the ordinary kind. The former will not cost much more, and will prove far more profitable in the end. Of course trees of well-known marketable varieties should be planted, and good specimens from reliable dealers should be obtained. Then follow this with proper protection, which will include regular spraying. Attention must be given to overproduction, that is, do not let them bear heavily the first few years, or injury is most surely the re-

sult. Now, you will not want a larger orchard than you can properly care for, but you will want to care for the orchard after it is once set. Pluck off any fruit that will strain the branch of any tree. Keep your orchard up, that means set out young trees every season to take the place of any that have died or have become unprofitable from any cause. Do not permit your orchard to become ragged, but make every tree come up to the standard. This can easily be done if one has even but ordinary intelligence and will give the time to the work. A great many prefer to use only hoed crops at first in the orchard. Wheat, oats and such grain crops are bad for the trees. They take too much from the soil, but hoed crops, seeding the land to clover or cowpeas every few years will produce excellent results.

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WAR WITH JAPAN?—NO.

We do not anticipate any war with Japan but nevertheless it may come. One thing is certain the American people are not encouraging war. There is an element in this country as well as in Japan, that smacks of Jingoism, and it is this element which is doing all the mischief at this time. Both here and in Japan politics is joining dark color to every suggestion of discord; every incident is magnified by a marplot press and truth is twisted into a lie. If these newspapers could be censured or suppressed in the interest of common sense it would be a good thing for the country.

One thing we do feel like saying, in this connection, and saying it might plainly, and it is this: The American people are tired of apologizing and weary of the effort to satisfy Japan of her kindly feeling toward her, and her people after they get into the United States. As the Des Moines (Iowa) Capital says:

"It is not the business of the Japanese government to follow every Japanese waiter around the American republic in order to see that some American waiter does not spill coffee on the Japanese apron."

But that is apparently what the Japs expect. Now it would seem that after the Japs come to this country they ought to take care of themselves, just as the German does and every other representative of a foreign power who comes to this country.

The American people have not taken any comfort by which they agree that no Jap shall be knocked down occasionally like every other man in a free country. The Japanese empire will have

all it can do to take care of the Japanese at home without governing them after they get into this country. "Every man in every land ought to be notified that when he comes to the United States, he takes his own risk," says the Des Moines Capital, which is the fact. "We cannot let Asiatics into this country and then give a bond that they shall always be treated better than the American is treated."

The truth is the Japanese are hungering and thirsting after social equality. Some years ago they sent a committee to Europe to investigate and report upon the social customs prevailing in the best lands. The committee reported in favor of the style of society governing the German court society and it was adopted. As the Japanese have progressed, their ambitions have advanced. And now they think they are as good as anybody. Especially has this opinion grown since the defeat of Russia by the Japanese. Our government is doing right in concentrating the navy in the Pacific ocean. Every preparation ought to be made in order that there may be no war. If our government is thoroughly prepared and continues to build battleships, we will have no battles to fight. President Roosevelt has evidently concluded that a show of force in the Pacific would be a good investment. Battleships and ships of war of all kinds should be either built or bought as rapidly as money can secure them and built on this coast if they can be. The American people do not want war. Japan has an idea that we are not prepared for war and when she finds out that we are there will be no trouble. But it is positively wicked for the press of the United States to be constantly betraying the plans of our government. The American government cannot purchase a barrel of powder without the fact being published. No doubt Japan is getting ready. Japan is saying nothing. Her people are too loyal to interfere with the plans of the emperor. Every Japanese man in the United States is a spy for his government. It is probable that the Japanese have plans and descriptions of every fort on American soil. The Jap is a sly person and you cannot tell what he is thinking about by what he is doing.

If there was as strong a sentiment of loyalty to this government, among its newspapers, as there exists among the Japanese for their empire, all the plans of the war office would not be heralded abroad to the detriment of the country. We need a stricter censorship of the American press.

WHITE FLY AGAIN.

W—dnp is elert if xse of setim rejdusqns v ger from the White Fly to orange growers in Southern California. Of course there is. Unless the colony now extant at Marysville and contiguous territory is exterminated we may look for trouble all over the State.

The Cultivator has discussed this topic so extensively, quoting the University bulletin on the subject, which treats of the character and depredations of the pest, that nothing more can be offered now.

The Cultivator was the FIRST agricultural journal in California to expose the danger we are in from the White Fly. A correspondent from Florida gave the warning note of alarm in these columns.

Jackrabbits, which for years have been the pest of farmers in Central and Eastern Oregon, are dying by thousands from some strange disease, which is now being investigated by the biological survey of the Department of Agriculture. Only a few years ago this district was famous for rabbit drives, when hundreds of the ranchers would gather and slaughter countless numbers of the little animals. Now, however, they are rapidly dying, and evidently will soon be exterminated. Some of these rabbits are being shipped to Australia in hope that the disease may infect the rabbits there and cause the death of great numbers of them.

Sample copies of the Cultivator are occasionally sent to non-subscribers with the hope that those who receive them will find enough of interest in the paper to warrant sending in \$1.00 for it. Not an issue of the paper which does not contain something of value—enough to pay for it a year. A subscriber from Marysville wrote, the other day: "I got information sufficient in one number of the Cultivator to repay my five years subscription." This correspondent had reference to the article on White Fly.

GREEN BUGS.

Continued from First Page

spécies. The first specimens sent to the Department at Washington came from an unknown locality. In 1884 they were reported again, from Maryland, and Professor Webster, then in Indiana, found them on some wheat which he was growing in an insectary for use in investigating another wheat pest. In 1890 they damaged the wheat in Oklahoma, Texas, Southern Kansas, Missouri, Illinois and Indiana, Kentucky and Tennessee. In 1900 the southwestern wheat district, especially, Texas, had a visitation. It seems quite well demonstrated that the insect is present practically all the time, but various checks to its increase keep it usually in abeyance. It feeds upon wheat, rye, oats, barley, corn, orchard grass, soft chess and many of the common grasses. In fields it has been found in great numbers on hawk-weed, *Heiracium longipilum*. It does its greatest injury in the spring season, following an open winter.

Some Friends of the Farmer.

Fortunately there are many enemies that prey upon the pest. One which has a somewhat questionable reputation as a benefactor is the snowy tree cricket, *Oecanthus niveus*, one of the Orthoptera. This is known to feed upon the aphides, but the female does some injury to the canes of raspberry and blackberry by her egg-laying habits. This insect is rather common, a very noisy singer and hearty feeder.

Another group of enemies is found in the lacewings, belonging to the order Neuroptera. These are delicate light green insects, one species having golden eyes, *Chrysopa oculata* Say. The eggs of this insect are oval and are placed singly at the extremity of a long hair-like stalk, usually in the midst of or near a colony of aphides. The larvae have long curved tubular mandibles, which enable them to suck the juices from the body of the aphid. The adults have a very unpleasant odor that seems not in keeping with the beautiful lacy opalescent wings and pale green body.

Often among the colonies of aphides will be seen small brown and green worm-like larvae busily feeding on the pests. These are the larvae of a group of Diptera known as Syrphus flies. The adults are most beautifully marked with brown and yellow and are among the handsomest flies known. They are very often mistaken for bees or wasps because of their resemblance, but their single pair of wings distinguishes them from the Hymenoptera, which have two pairs.

Another family which furnishes enemies to the aphides is one of the order Coleoptera, called coccinellids, or lady beetles. There are many genera of lady beetles, and all, except one, *Epilachma*, feed on other insects.

The Chief Destroyer of Green Bugs.

Last but not least in importance, though least in size, are the Hymenopterous parasites. There are several species of Hymenoptera that are parasitic on wheat-lice; but the one that has been so extensively used by the Kansas University this year in combating the green bug is one of the Braconidae, and is known by the generic name of *Lysiphlebus* (d). Those who have studied it find it is an undescribed species. It is often referred to as *Lysiphlebus tritic Ashm.*, and not unnaturally, for the rearing of that species from all three of the wheat-lice has been recorded by the Department of Agriculture at Washington, D. C. Just what the points of distinction are have not been reported. The methods of *Lysiphlebus* sp. are swift and unerring. When a healthy aphid is discovered the female takes a position over its body and thrusts its ovipositor or sting into the aphid's body, leaving an egg inside. The aphid usually raises its body from the normal position as if in pain, but soon begins feeding again. The work is done, however; for instead of bringing forth from three to seven young aphides daily, all the nourishment goes to feed the worm-like larva which has hatched within her body. This is shown in the figure of the wingless female (a, Fig. 1). The presence of the parasite gives a yellow spot on the abdomen very easily seen with a hand lens, and the outline of its body can be seen within the body of the aphid under a compound microscope. The aphid soon dies, and its body becomes distended and papery-looking. At the end of a week there is a wee round hole and a lively bee-like insect flying around looking for other aphides. The number of eggs laid by a single *Lysiphlebus* has not been determined; but a single female has been seen to sting a great many aphides. At any rate the aphid once parasitized stops reproducing and within a week ceases feeding, is dead, and has been replaced by a living parasite.

News of Country Life in the Golden West

Southern California Northern California

AGRICULTURE.

"Dry ranching" is being practiced in Perris valley.

Onions are being shipped in carload lots from Hemet.

Anaheim is to ship two carloads of pudis to Klondike.

The hills south of Chino had a bad rush fire last week.

Over 1000 cows are required to furnish milk for the city of Pasadena.

Some claim the honey crop will not exceed one-half of that of two years ago.

L. S. Green, of San Jacinto, received \$150 per acre from potatoes this season.

Artesian wells near Oxnard are being capped to prevent waste of underground waters.

One thousand tons of alfalfa hay were sold by a Corona farmer to a Los Angeles dealer.

Beet farmers are busy polishing up the old plows and getting ready for the harvest of beets.

Glendora Farmers' Club held their annual picnic at Morgan's Cañon and had a pleasant and profitable time.

Coachella claims that its output of produce this year, will be more than five times as large as it was in 1906.

Long Beach city trustees are making a strike at unclean barnyards and poultry houses which are in the city limits.

The Colorado River got on another little rampage last week and showed rise, but nothing of a serious nature whatever.

The Santa Fé Railroad Co. is engaging in a thorough study of the eucalyptus, as a possible source of supply of ties in the future.

Threshing machines are working near Santa Ana, but are handicapped, as in many other sections in the State, by shortage of labor.

One train of twenty-two cars of live stock was recently received for "finishing off" by the California, Mexico Land & Cattle Co. at Calexico.

The lima bean crop is improving wonderfully. Growers near Oxnard, claim that last week has seen a great improvement in the appearance of the crop.

A beet grower near Oxnard has invented a new beet rack, a side dumping affair, which will economize very materially in the handling of sugar beets.

Downey is one of the largest shippers of milk into the Los Angeles market; in fact, most of the output in that section is absorbed by the city delivery.

Orange County will produce one hundred tons of honey this season—about one-half a crop. Prices expected are one cent higher than those of last year.

The Neuvo ranch, near San Bernardino, will make a gross return of between \$55,000 and \$60,000 this year. The income is from three items, barley, wheat and hay.

Oxnard Courier says that the honey crop season of that section is ending much earlier than anticipated. This was brought about by the early July warm weather. Flowers nearly all dried up and no more nectar to be had.

HORTICULTURE.

Whittier Valencias are practically all shipped.

La Habra valley is growing six hundred acres in tomatoes.

The Fay Fruit Co. are establishing a new packing house at Whittier.

Imperial valley anticipates the receipt of \$60,000 for its grape output.

Santa Ana is still making strenuous efforts to stop the stealing of oranges and other fruits.

The scrap between Santa Ana and Riverside, over the waters of the Santa Ana river, is still on.

J. C. Hume, of Valley Vista, near San Jacinto, received about \$500 per acre for his apricot crops.

Walnut crops this season are promised to be good unless something occurs unforeseen at this time.

The Coachella claims to be the first among the desert shippers and the latest producers of cantaloupes.

The first Bartlett pears in Los Angeles market commanded \$2.75 per box. They were from Vacaville.

Several hundred acres and an apiary were burned by a brush fire started by children, near Redlands, recently.

Santa Ana has a promise of a large olive oil company. It is claimed \$250,000 will be invested in the venture.

Orange County has a number of new celery fields this season and the output is expected to be fully as much as last year.

One apricot grower, at Ventura, who had some exceedingly large, fine apricots, received for his green fruit \$120 per ton.

The Whittier Citrus Association is offering a \$25 reward for arrest and conviction of persons stealing fruit from its members.

Orange growers are feeling good over the statement that cost of fruit-shipping boxes will be lower this year than for some time.

With Imperial valley grapes selling at 8 cents to 10 cents at Los Angeles, the vineyardists are wearing that smile that won't rub off.

Imperial valley is now sending carloads of grapes direct to the Eastern market. The hope is that they will bring from \$3 to \$4 per 100 lbs.

San Diego County claims an output of one thousand cars of lemons and that the income from their sale will be three-quarters of a million dollars.

Banning has never been quoted very extensively as a shipper of fruit, but last week she sent out one car of very fine plums for Texas consumption.

The Huntington Beach Canning Co. has put up over one thousand gallons of sauerkraut, and is at present employing 40 hands putting up more kraut.

Orange County has been drawn upon to the extent of \$500 as its share of expense of the National Irrigation Congress to be held at Sacramento in September.

Those districts of the Imperial valley which were deprived of water owing to washout of the flume across the New River, will soon receive irrigation water through the restored flumes. They have been without water for nearly a year.

AGRICULTURE.

Yolo County sugar beet crop promises to be extensive.

Petaluma grange held an interesting meeting last week.

The wheat raising industry is being encouraged in San Benito county.

Santa Rosa is a market place for much hay grown in Sonoma County.

Sonoma County is preparing for a raid on those premiums for county exhibits at the State Fair.

In some sections of the beet fields, the beets were injured by the hot wave of a couple of weeks ago.

The Sacramento Bee reports one potato grower who received a gross of \$600 per acre for his potato crop.

Vacaville Reporter says that Cordelia is being infested with coyotes which are causing much damage.

Examinations for position of forest ranger will be held at the supervisor's headquarters of Forest Reserves, July 23rd and 24th.

Thompson & Co., a Los Angeles butter commission firm, is securing interests in several creameries of the lower San Joaquin valley.

A severe forest fire started in Mt. Campbell district, Fresno County, in which some grain and much valuable pasture lands were burned over.

While moving a harvester from Corcoran, the big traction became stalled in the mud, and at the last report was still out of commission.

Between damage by flood in breaking of levees and by fire on water sheds and grain fields the Great Valley is having a hard time these days.

Tulare is hoping to have an agricultural fair, for which a company has been formed and incorporation papers will be filed as soon as possible.

The San Jose Mercury reports a number of cows dying on the Callahan ranch from anthrax. Vigorous measures have already been taken to stamp out the disease.

Grain growers in Solano County are vying with each other in large yields of grain. Some growers reporting 20 to 25 sacks per acre, while one ranch of 240 acres averages 33 sacks per acre.

The officers of the newly-formed Tulare County Agricultural Association are as follows: H. Hay, Pres.; W. A. Green, Vice-Pres.; V. F. Ingwersen, Sec. A fair will be held this fall.

The bad break of the levee in Kern County by which thousands of acres of rich farming land were inundated, was partially controlled by a new levee, which later gave away and the water is still spreading.

Yolo County commissioners turned down the application of the National Irrigation Congress for funds, and business men of that county are taking the matter up in private way to meet their proportion of the Irrigation Congress expenses.

Tulare county is concerned over the fact that many old half dead pear orchards continue to stand and spread blight to the few trees which are still kept in good growing condition. There seems to be no law which permits the destruction of these trees though they are of no value to anyone. The commission will enact such ordinance.

HORTICULTURE.

Watermelon shipping has begun at Dinuba.

Exeter is now shipping cantaloupes of fine quality.

Vacaville has shipped over 250 cars of green deciduous fruits.

Two new reclamation districts have been formed below Yuba city.

Maywood Packing Co. is installing olive oil-producing-machinery.

The Italian-Swiss colony, near Leemoore, is about to build a large new winery.

Exeter is shipping cantaloupes in large quantities, the first car going to Canada.

State Engineer, N. Ellery, inspected the river and levee of Sutter County last week.

A 14,000-acre tract of land is to be thrown open to settlement of small tracts near Turlock.

Winters cannery has opened on peaches on which it expects to have a long and successful run.

Winters cannery closed on apricots with the total pack of three hundred and forty tons of fine fruit.

Turlock irrigation district is preparing to vote for \$50,000 expense budget for the coming year.

It is estimated that 50,000 tons of dried prunes and 75,000 tons of raisins will be the output this year.

The Central California canneries plant, at Visalia, is now operating on peaches, principally Crawfords.

The first shipment of cantaloupes out of Turlock commanded \$5.00 per crate in San Francisco market.

Hanford Sentinel gives us the biggest one of all. It claims a gross return for one acre of apricots of \$1600.

San Jose claims that this year's output of prunes will be smaller than it has been for twenty years in that valley.

Tulare County Board of Trade is making a special appeal to the Secretary of Agriculture to modify his sulphur ruling.

Cherry orchards have proved valuable property this year some having brought a gross of nearly one thousand dollars per acre.

Reedley vineyardists are guessing as to their crops owing to the attacks of worms and grasshoppers which are very perplexing this season.

Levee District No. 9, in Sutter County, is improving levees of that district by raising to a greater height. Over 2000 cubic yards of dirt will be moved.

Tulare County Times promises that Tulare County will outdo all previous efforts at attempting to pull down the big premiums for exhibits at the State Fair.

Fruit growers of Tulare County are complaining of the carelessness of fruit peddlers, who go from orchard to orchard buying fruit often using infested boxes thus scattering pests from orchard to orchard.

The dried fruit market has been unsettled by the ruling of the Department of Agriculture as to the amount of sulphur permitted in dried fruit and at present no contracts are being closed by the buyers, but they are advising the growers to sulphur their fruits as in the past.

PER
1 BUSHEL
SACK

\$1.90

PER
2 BUSHEL
SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by all largest and best breeders in the country. Thousands of poultry-men are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultry men who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Fletcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland.
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis and Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 505 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

Beef Scraps Raw Bone

GUARANTEED ANALYSIS:

Protein65%
Fat8%

Made of Cooked and Dried Livers, Lungs, Melts and Clean Scraps. No fertilizer ingredients in these Beef Scraps.

Pure, Clean Animal Matter Poultry Foods

WESTERN MEAT COMPANY SOUTH SAN FRANCISCO CALIFORNIA

GUARANTEED ANALYSIS:

Protein25%
Phosphates45%

Made of Clean Beef Bones, surplus fat removed. Cleanest Raw Bone on the Market.

Lincoln Avenue Poultry Yards

—Capt. Mitchell's S. C. White Leghorns—

To clear a few yards for young stock we will sell a limited number of extra choice breeders at half price until August 15th. They are all utility birds with conformations ranging from 150 to 250 eggs per year; prices from \$1.00 to \$3.00 each for hens and \$3.00 to \$25.00 for cocks. If you are interested come and see us or write.

CARL C. CURTIS, Owner

Altadena
Cars

Lincoln Ave. and Ventura St., Pasadena, Cal.

A GOOD TONIC ACME ROUP CURE CURES

FED TO YOUNG CHICKS WILL KEEP THEM HEALTHY AND VIGOROUS; THE OLD FOWLS WILL MOULT QUICKER AND EASIER; PULLETS WILL LAY EARLIER AND LONGER

LEE'S EGG MAKER

IS THE BEST TONIC MADE

LEE'S LICE KILLER
IS GUARANTEED

HENRY ALBERS CO.
315 SO. MAIN, LOS ANGELES

Beef, Blood and Bone Will Make Your Hens Lay

This is not a medicine but a high grade nitrogenous food. Write for free booklet, "How to make Hens Lay." Our Poultry Foods are sold by all local dealers and manufactured solely by

The Pacific Guano and Fertilizer Co.

Also Pioneer Manufacturers of High Grade Indiana and Yolo Sts., San Francisco, Cal. Fertilizers. Write for our free booklet, "Farmer's Friend." Valuable to all farmers and ranchers.

Profit in the Poultry Yard

We solicit short articles of a practiced nature from the fancier and utility breeder, giving their experiences with poultry. All inquiries pertaining to feed, management, disease and its prevention, will be answered through these columns.

MORE ABOUT CHICKS.

CONTINUING our letters from poultry breeders in California, we publish this week articles from some specialty breeders of the northern and southern parts of the State.

We sincerely wish those just starting in the poultry business, and those who have had trouble raising their chicks would carefully study these letters as they are all from successful breeders.

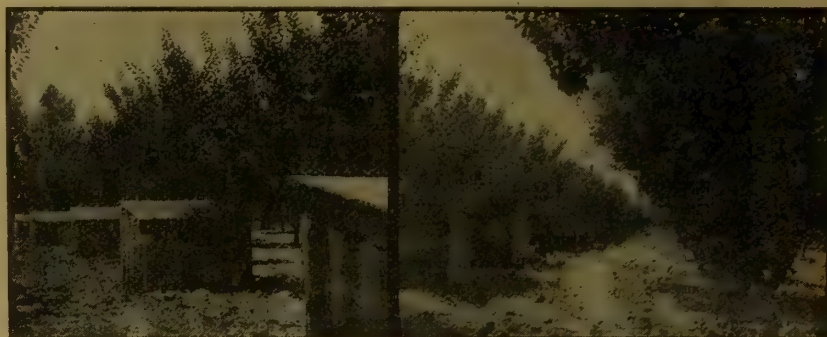
Miss Carrington, of Haywards, near San Francisco, sends us a splendid article and encloses pictures of her colony houses, which are reproduced here, we are sorry these cuts are not better, that our readers might get a better idea of the houses. Many of

water vessels clean and full of fresh water and dry chick food—any good brand—scattered around, when I put the chicks in the brooders.

I am always very careful not to over crowd, placing about 40 in a one-hundred size brooder. This proportion I find gives best results. They are kept well supplied with water and chick food all the time, thus there is no danger of their getting over hungry and so overeating themselves. In a day or two I add to their diet, a mixture of bran, corn grit, ground wheat or ground grain, which I put in shallow pans. After the first week I keep increasing the size of the grain until they are eating the same rations as the rest of the flock.

Green Feed Too.

Green feed and meat in some form, are necessary after the first three or four days; whole wheat as soon as they can eat it, thus keeping their digestion strong and up to its work. I have seen chicks three months old that had never been given any whole wheat and they were dyspeptic, over-



the Cultivator family know of Miss Carrington as a breeder and exhibitor of White Leghorns, and those who attend the State Fair, at Sacramento, this fall will no doubt get to see her and her birds.

Miss Carrington's Letter.

The most important part in the raising of chicks is the hatching. However, strong the breeding stock, if the eggs are overheated, chilled, not cooled long enough, or cooled too much, or the incubator run in an ill-ventilated room, the chicks are bound to be a trial and a tribulation to the unfortunate attendant who tries to raise them, even with the finest brooders and the best foods. What I am going to say about raising chicks applies to good, strong fat chicks, from healthy stock, well hatched.

Don't Crowd.

Do not over crowd your incubator at hatching time. If I have a fine test and every likelihood of a full hatch, if possible, I divide the eggs about the sixteenth or seventeenth day, as when I am running a 390-egg machine and have one of my smaller ones empty, I place 100 or so of the eggs in the smaller incubator. Then from the time the eggs chip until the last strong chick is out I do not open the incubator. I then open the machine, remove the trays with the empty shell and all that have not hatched, open the ventilators and if the weather is very warm let the door remain a little way open, and leave the chicks happy and quiet for at least 36 hours.

Brooders All Ready.

My brooders I have all in readiness, having seen that the lamps are in good order, the floors clean and covered with sifted gravel, little

coddled looking weaklings that would succumb to the first illness or over eat themselves the first chance they got at whole grain.

Weaning.

I wean my chicks in the following manner: I have colony houses four feet by five feet with a tight felting lath floor, which slopes at an angle of about 30 degrees from the ground at the front to within twelve inches of the roof at the back; over this are placed perches. When the chicks are from six weeks to two months old—according to the season—they are put in these houses and a temporary run around the house.

I prefer to move them in the morning; in this way they get accustomed to their new quarters by sundown. They naturally hunt the dark at night and so all go on the lath floor and for the first night most of them will probably roost on it, but the second night will most likely find them all in nice rows on the perches, a joy to their owner's heart. In a few days the temporary run can be removed and they then have access to free range and are no more trouble until large enough to be placed in permanent roosting quarters.

I would say that these colony houses hold about 40 chicks each, but if you have enough houses it is better to put in about 30 chicks.—C. B. Carrington, Haywards.

Mr. Curtis, of Pasadena, sends us an article, the advice of which if followed will prove beneficial to any breeder. Mr. Curtis is successor to Captain Mitchell and follows practically the same plan in feed and care as did his predecessor.

Mr. Curtis' Way.

Our brooders are large, roomy ones

Santa Ana Poultry Ranch

LINE BRED

WHITE PLYMOUTH ROCKS

EXCLUSIVELY

We won as follows at the Poultry Breeders' Society Show: 1st Cock, 1st, 2nd, 3rd and 4th Hens, 2nd and 3rd Cockerels, 4th and 5th Pullets and 2 Silver Cups.

Some Extra Choice Cockerels For Sale. Eggs, \$2.50 per 15, \$10 per 100.

RHODA E. DURFEE

1110 W. First St., Santa Ana, Cal.

POULTRY SUPPLIES

Newest, finest largest, and most central store. Prices the very lowest. Come and see.

Pacific Incubator Co.

707 So. Spring St.
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Ranch For Sale

A five-acre ranch with seven-room house. A variety of fruit. Poultry yards for a thousand fowls. Cars at the door.

Susan H. McPherson

Third St., Chula Vista, San Diego Co. Cal.

BARRED ROCKS

EXCLUSIVELY

Send for Sixteen-Page 1906 Catalogue

H. R. CAMPBELL

BOX O PETALUMA, CAL.

Baldwin's White Leghorns

Fine youngsters at reasonable rates. Good older stock cheap to make room. Full description of stock and price list mailed free on application.

Frank E. Baldwin

16 Washington Ave. - San Jose, Cal.

Spargur's Trap-Nested White Leghorns

Cockerels for sale from my best hens. A few Light Brahma Hens and Roosters for sale. Eggs from I. R. Ducks and Blue Andalusians at \$1.00 per setting, \$5.00 per hundred.

H. G. Spargur, Soquel, Cal.

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Breeders and Importers of

Buff, Black, and White Orpingtons

Have for sale Trios, Cockerels and Pullets. Eggs for hatching, settings or hundreds. Write or call.

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Breeder of White Leghorns, Black Minorcas and Barred Plymouth Rocks. Eggs for hatching, \$2 to \$5 per setting. Single birds, trios and breeding pens a specialty.

Yards at Ranch (10) Phone Main 1553
943 W. Fremont St., W. Stockton, Cal.

WHITE WYANDOTTES EXCLUSIVELY

ood, White, Typical Birds. Stock and Eggs For Sale.
W. A. SEYMOUR
170 No. Beaudry Ave. Los Angeles, Cal.

MY EXHIBIT OF

WHITE, BUFF AND PARTRIDGE Wyandottes

Won 26 Ribbons and Special Prizes at the Poultry Breeders' Show, 1907
D. Box D87 L. E. BERKEY, Fullerton, Cal.

SHADE'S RHODE ISLAND REDS

The World's best layers.

W. Shade San Bernardino, Cal.

of the individual type heated by acetylene gas. Their floors are covered with sand to a depth of one-fourth to three-eighths of an inch. The first feed of mixed grains is scattered on the floor of the brooder just outside the hover. We use one of the proprietary mixtures, composed of hulled oats, cracked corn, rape, cracked rice, canary seed, a very little white grit and charcoal. A small water fountain is also placed in the brooder for the first day. After the first day the mixed grains are scattered in the cut oat or alfalfa hay that covers the floor of the brooder-house runs, and the water fountains placed outside the brooders. The proprietary mixture is their only feed—except grit, charcoal and clean beef scraps—for the first five days and thereafter cracked wheat is gradually added until at the end of three weeks the chicks are eating all cracked wheat. Whole wheat is then added to the cracked wheat in increasing ratio until at the end of the sixth week they are getting all whole wheat.

A Mash Feed.

The grain ration is fed three times daily until the tenth day when a slightly moistened mash, composed of bran, four parts, shorts and feed meal each, one part, one-half part meat meal and a teaspoon of salt to each quart of the mixture, all moistened with sweet or sour milk—preferably the latter. The mash is first fed on pie tins—three to the brooder—and afterwards in small troughs. It is left before the birds not longer than fifteen minutes, when the remainder—if any—is removed. Under no circumstances is this mash allowed to get into the sun as it quickly spoils, and must be fed immediately after mixing.

We have been experimenting with the above mash fed dry, but have abandoned the practice for the reason that more food was eaten or wasted to no advantage, either in the saving of time or increased growth or health of the chicks. If anything, the birds fed on the wet mash have done better.

Never Crowd.

As far as possible, we try to have never more than fifty chicks, or hens either, for that matter, in a brooder or flock. Crowding invariably results from not having the heat turned on in the brooders quickly enough (if it has been turned out during the day) before the chicks seek the warmth, or of running them too cool. Sometimes they will crowd from force of habit for no apparent reason whatever, the vice being generally started by some one chick who promptly has his neck wrung if discovered. This habit of huddling is a difficult one to break up and will follow the brood to the roosting stage when it once gets a fair start.

Teaching to Roost.

Inasmuch as we raise chicks by the thousand we are unable to afford them much personal instruction in the fine art of roosting, but where a flock of youngsters is slow in so doing we occasionally give them a lift or so to start them. The perches in the colony houses, where the chicks are quartered from the sixth to the twelfth week, are set not over ten inches from the floors and for the first two weeks clean straw to a depth of five or six inches covers the latter, and thereafter sand is used. The straw helps them to keep warm better than the cold sand.

CANADIAN IRRIGATION LAWS ARE PERFECT

THE Canadian Government looks after the interests of the farmer just as closely as he looks after his own affairs. When the settler goes to Canada he is assured that he will receive just treatment. The justice of the Canadian irrigation laws has attracted the attention of the states in the United States where irrigation is practiced.

There is no question but that irrigated farming is the most profitable farming but the settler should be certain that he is going to get a full and bountiful supply of water for his land and live stock before he depends upon irrigation.

The Canadian irrigation laws provide that no ditches shall be built where it is not an absolute certainty that they will be supplied with water, and plenty of water even during the very driest year. On the great Canadian Pacific irrigation tract near Calgary, Alberta, Canada, the lateral ditches are brought to the highest point on each farm—Thus the expense and work of constructing laterals does not fall upon the farmer, but he is ready to begin farming the moment he enters his land.

The expense of maintaining the irrigation works falls very lightly upon the farmer, too, because he is only required to pay 50 cents per acre per year on each acre of irrigated land for keeping up the ditches, which is much less than the actual expense of the work and this small payment is nothing when the increased yield of irrigated land is considered.

Thus everything is made easy for the settler—He spends no time getting ready to farm but begins at once when he arrives and his water rental is so slight that he hardly feels the expense.

Almost anything can be raised under irrigation in Alberta. Sugar beets produce enormously and every ton can be sold for \$5, this price is guaranteed, and it is a higher price than they usually bring in other sections. Alfalfa is one of the staple crops and it produces forage which makes stock raising a certain and sure profit bringer on a large scale.

Almost any of the cereal or root crops can be raised and the production is large—Good markets at the very door of the settler make farming conditions as nearly perfect as are to be found anywhere.

The man who settles on irrigated lands in Southern Alberta is not a pioneer—He has good neighbors and all advantages of modern civilization that are to be found on the farm anywhere.

We don't want you to come to Alberta unless you are satisfied that you can do better here than anywhere else. If you will send your name and address we will tell you how to see the country at the least possible expense and how to get a farm that will make you rich. In short, we will prove to you that Southern Alberta is the place you are looking for.

CANADIAN PACIFIC IRRIGATION COLONIZATION CO., Ltd.

60 Ninth Avenue, West.

Calgary, Alberta, Canada.

Excelsior Egg Food

By scientific and careful experiments we have been able to compound a ration in our Excelsior Egg Food to produce the desired results, that is

More Eggs

It pays to give the hen a highly nutritious balanced Egg Food Mash, mixed in proportion to insure the results. Use it the year around, and you will have healthy hens, and more eggs when they are high-priced, as well as when they are cheap.

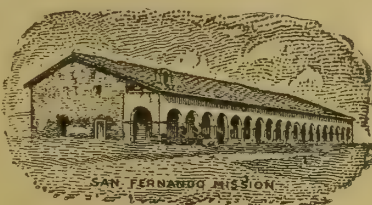
If your dealer doesn't handle it telephone or write us.

Price 90-lb. sack \$2.15; 25-lb. sack 75c.

Del Monte Milling Co.

242 Central Ave.

Los Angeles, Cal.



THE WHITE WYANDOTTES THAT WIN AND LAY

\$15.00 and Up Per Dozen

Lakenvelders, per pair, \$8.00; trio, \$10.00.

Mammoth Bronze Turkeys Reasonable.

Mrs. C. D. Hubbard, Box 282, San Fernando, Cal.

Bemis Plymouth Rocks

Barred and White

Prizes Won at Alameda County Poultry Association Show, Oakland, 1907—22 Regular Prizes and 8 Silver Cups. Can furnish best birds and eggs at reasonable prices. No incubators lots furnished

Mrs. Florence E. Bemis, 1757 19th Ave., Oakland, Cal.



The White Faced Black Spanish

Are famous as layers of large white eggs at all seasons of the year. We won all prizes at the Breeders Great Show, 1907. Choice Cockerels For Sale, \$5. Eggs, \$1.50 per 13, \$4.50 per 50, \$8 per 100. Special matings, \$3 per 13. Fertility guaranteed.

Mrs. W. H. O'Connor

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Egg-More

for

Early Molt

Don't let your hens molt for months. Don't let them get all run down and out of condition. They need to be fed a scientifically balanced ration during this trying season. EGG-MORE is just the thing to mix with good grains to make the same a rightly balanced ration. Many so-called "poultry foods" and "egg makers" are nothing but stimulants and not advisable to be fed regularly. If your poultry are already in a run down condition,

West Coast Poultry Tonic

is what they need for a short time; that is just what its name implies. It is very easy to mix a lot of ingredients, much of it a little better than refuse and call it egg food. And even if good foods are mixed it doesn't make an egg food unless the ingredients are adapted to the requirements. Some mixers of "egg food" seem to think that it is the shell alone that is to be made, forgetting that the hen has no use for the shell until she has made the egg.

Egg-More

is a concentrated food, very rich in protein, and a small quantity mixed with ground grains, or even with bran, is just what is needed to make her molt quickly and then lay lots of eggs. It is made of just such first-class materials and in such proportions as has been proven by long practical experience to serve this purpose, and at the same time to build up her system and keep her in the best of health. When a small quantity is mixed with good grains, or bran, as directed in each package, it can be fed either as a mash or as dry feed. The hens like it, they eat it, there is no waste; it makes the cheapest egg food that can be made, especially if you can buy your grains at home cheaper than to ship them in.

EGG-MORE is put up in 4-lb. packages at 35c; 25-lb. pails, \$2.00; 50-lb. sacks, \$3.75; and is for sale by many dealers. If yours doesn't keep it, or will not get it for you, we will deliver a pail or sack, freight prepaid by us.

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WHITE WYANDOTTES

President's
Cup, 1907

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TO PREVENT HYDROPHOBIA.

We have but little faith in the power of any treatment to prevent this dreadful disease except that given at the Pasteur Institutes. But in case any one is bitten and it is impossible for them to go or be taken to such an institute, then some home treatment may be tried, for doctors are powerless to help.

A correspondent of the Jasper News tells of an old negro woman, two of whose children were bitten by one of the numerous dogs about the place, which dog had gone mad. It also bit several hogs. The hogs died of rabies, but the children escaped. When asked what she had done for the bitten children, the old woman said she hadn't done much except to rub the wounds with spirits of turpentine. If this is an effective remedy, the sooner it is known the better, for the application is a much cheaper means of prevention than a trip to the Pasteur Institute.—Florida

Absolute Cleanliness.

Incidentally we might add that all brooders, colony and hen houses are cleaned and sunned daily, sprayed with a lice-killing disinfectant weekly, and after every brood leaves them, scrubbed, sprayed and whitewashed. —Carl C. Curtis, Pasadena.

* * *

Ed. M. Burnell, Columbian Wyandotte breeder, who has favored the Cultivator before, writes:

Mr. Burnell's Way.

It is queer but true, that different poultrymen, feed, care and raise chickens successfully on entirely different lines. To illustrate, I have friend breeders who feed and house in ways that would end my flock and I presume they say the same of my methods, yet they raise their chickens. I may add I have over 1000 youngsters that look pretty good to me.

Until they are about six weeks old, I feed a dry mash of equal parts of bran and feed meal. I season this slightly with meat meal. They get lawn clippings for green food nearly every day and twice a week fresh ground bone. I find the bone a good builder, puts them on their feet and starts them off with that blocky condition I am after. Before them in separate dishes I keep finely ground granulated milk and they keep one busy filling the dish, for they like it. When about a month old I feed cracked wheat in the outside brooder runs.

How Large a Colony.

In each compartment of my sixteen-section brooder house, I keep about fifty; but right from the incubators I will put as many as 100 for two days. I find the first two nights critical and a slight chill will carry them off, in two or three days I divide them.

The hot water pipe is next to the hover opening; the return pipe in the back part of the hover; I find this makes an even distribution of heat through the hover. Cold makes chicks crowd and if they bunch I give them more heat and they soon scatter out. When the chicks are one month old I put them in the cold brooder.

Teaching to Roost.

When the chicks are put in the colony houses they find the roosts lying on the floor of the house. These I raise four inches from the floor in about three weeks. I do not believe in teaching them to roost too young, for it will give them a crooked breast bone and that hurts show specimens and market birds.

A Good Feeder.

I have made from five-gallon oil cans, a mash saving feeder, by cutting a strip of the tin out of the two opposite sides of the can about two inches wide; lay the can on the side and they feed from both sides, turn the tin in one-half inch, this keeps them from spilling the mash or grain out; these cans will hold a day's rations and it saves the three times a day feeding of growing stock.—E. M. Burnell, South Pasadena,

* * *

Harry McIntire, the Buff Cochinchina breeder of San Diego, sends us an article, while it is short, yet it is to the point. His rule of not giving water until the fourth day is new to us, as we always give water when chicks are 24 hours old, and have had good success. Yet, no doubt, the plan is all right for Mr. McIntire raises some

of the best Buffs produced west of the Rocky Mountains.

Mr. McIntire's Way.

My chicks are all kept in the nursery of incubator until the hatch is over, then removed to brooder where they receive chick feed (as prepared by poultry supply house) on their third day—with no water until the day following—I feed them but a small allowance, but feed it four times daily. Chopped green food is given them plenty; as they grow older, cracked wheat and cracked corn is mixed with the chick feed, until it gradually is substituted entirely for the chick food.

Weaning.

Less heat is gradually given them until shut off entirely and then the brooder top is lifted off and after a week or so they are then put into open (on south side) sheds—in colonies of about twenty, and when half grown perches are given them and a few older fowls put with them, soon teach them to take to the roost.

Small Colonies.

The smaller the colony the less they crowd and sweat at night—night sweating brings on colds and roup. For several years I had roup to contend with in growing youngsters and now never have it, as with no night crowding there is nothing to bring it on. I am breeding Buff Cochins and White Wyandottes and they are both strongly constituted—and I never try to raise a weakly, slow growing chick—but weed them out.—Harry McIntire, San Diego.

* * *

AROUND THE YARDS.

Success comes only to him who sees an opportunity and grasps it.

* * *

Every neglected duty makes success harder.

* * *

Many who try to make the breeding of fancy or exhibition poultry profitable, fail because they are not, and never can be, fanciers

* * *

Poultry simply for the sake of keeping it is not what we want, but poultry that will bring "grist to the mill."

* * *

The comb is a good indicator of the health of your flock.

* * *

If you feed soft food, season with a little salt.

* * *

Geese are just as profitable as turkeys, and are a great deal easier to raise.

* * *

Two weeks is long enough to fatten a fowl if fed properly.

* * *

Hens that are given a variety of food and are not overfat will lay eggs that should hatch, if the male is active and vigorous. Fresh meat gives vigor to laying hens and if more meat and less corn is fed the hens will more than pay for the difference in price of the meat in the increased number of eggs laid.

* * *

Two Irishmen driving through the country noticed that many of the barns had weathervanes in the shape of huge roosters.

"Pat," said one of the men to the other, "can you tell me why they always have a rooster and never a hen on the top iv thim barns?"

"Sure," replied Pat, "an'it must be because av the difficulty they'd have in collecting the eggs."

General Agriculture

LUPINES.

THE lupine is ordinarily considered a harmless plant, but on the contrary, it is one of the most dangerous. It has a blue flower and it is often mistaken for, and by many called, loco weed.

The lupines, like the loco weed, belong to the pulse or clover family, and there is quite a striking resemblance between them. They are commonly seen growing by the roadside, in the canyons of the mountains, and are generally all over the Eastern plains. The essential points of difference to the casual observer, are that the lupines grow higher, the flower is more brilliant and the leaflets radiate from the end of the leaf stock, forming a circle around the stem. The plant is commonly called the wild bean, or wild pea. The pod forms about the first of June, and in August the fruit falls off and the plant continues green after the grass has dried up. The well-known Indian turnip has a leaf resembling the lupines, which can be told by its large, starchy tuber root.

Will Poison.

The lupines are relished by horses and cattle and especially by sheep. The plant, under ordinary conditions, and when not in seed, constitutes one of the most valuable forage plants. In Montana it has become so abundant that thousands of acres are cut every year for hay. It is rapidly increasing in this State, and its danger, as well as its value, should be generally known. When eaten by cattle or sheep when wet during a storm, it will sometimes produce a serious bloat, much the same as alfalfa, and in addition may, under these circumstances, produce more or less poisoning. The principal part of the plant which is dangerous is known as "lupinotocin," and it is found mostly in the seeds. The plants, if cut before going to seed, or after the seed pods have broken open and the seeds dropped to the ground, makes a valuable forage crop, and can be fed to all species of animals with perfect safety; but if the seeds are eaten either in the growing plant or in the hay, a most violent poison is sure to result. If hungry animals are being driven across a country infested with this plant, they will grab at tops of the plants and naturally get many of the pods, and it is under these conditions that the worst poisoning usually happens. There are reported, however, some serious cases of poisoning from feeding lupine hay, especially among sheep.

Symptoms.

The symptoms of lupine poisoning are, first, mental excitement, which is characteristic of sheep. They will run in different directions, colliding with one another and with various objects. This is followed by convulsions, falling fits and final collapse, in some respects, similar to those seen in strychnine poisoning. In chronic poisoning, which is seen more in horses, it is known by the name "lupinosis." The symptoms are those of fatty degeneration of the liver and kidneys and sometimes of the heart, loss of appetite, fever and the visible mucous membranes have a yellowish color. These phenomena are accompanied by dullness, excitability, stiffness of the jaws, constipation, loss of weight and occasional paralysis. In the course of time the

animal dies from pronounced emaciation. The similarity of the symptoms in this condition to those seen in the so-called "no name disease" of horses in this State and Nebraska, has made it advisable to make a thorough investigation of this plant in connection with this disease.

"Lupinosis" in sheep in the chronic form, is always accompanied by a yellow appearance of the skin, as well as of the visible mucous membrane.

I find that many of the mysterious cases of poisoning of domesticated animals from widely different sections of the State, and which to the owner is invariably surrounded by mystery or results in the accusing of a neighbor as having wilfully poisoned the animal, is in reality, a poisoning from this plant, which is found growing abundantly in the pastures, in the meadows and by the roadside, and which has always been considered perfectly harmless.

Antidote.

We have, at the present time, no knowledge of a reliable antidote for lupine poison. The treatment that promises the most is permanganate of potash, which has been found such a valuable antidote for poisoning by larkspur. The directions for giving this treatment will bear repeating, because it is a most valuable antidote for poisoning by a number of our alkaloids. It has been positively proved that it will save most animals poisoned from larkspur. It is the antidote used by physicians in case of poisoning from morphine and other dangerous alkaloids in the human. For cattle and horses, 40 grains of permanganate of potash and an equal quantity of sulphate of aluminum thoroughly dissolved in a quart of water. This dose is for fully matured animals. In smaller animals the dose should be given in proportion to weight. When animals are badly frenzied from eating lupine, it is found that hypodermic injections of morphine, in three grain doses for large animals, or drenching with a solution of choral hydrate, say an ounce and a half dissolved in at least a pint of water.

It is well for farmers and stockmen to become familiar with this plant and its symptoms in treatment, as it may be the means of saving some valuable animals.—Geo. H. Glover of Colorado Agricultural College.

Thousands of people will suffer loss of money and endure great privations as a result of the extravagant statements published about what can be accomplished by the adoption of the Campbell system of dry-land farming. We have been surfeited for years with agricultural romance from writers who write about such matters of which they know nothing. Settlers have been learning for years how to raise crops and make farming pay in districts where it was not possible to do this by the methods followed in regions of abundant rainfall, but there is no justification for the absurd statements which are leading thousands of people into trouble.

"If you find yourself a-feelin' that you'd like to pick a fight, if you find you're not a-sleepin', an' you hardly eat a bite, if your head just keeps a-throbbin' at a mile-a-minute rate, you have got it; quit your workin' an' begin a diggin' bait."



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Constructed especially for heavy California hay baling. Write for proposition to ship you a New Century on **10 Days Free Trial**. Sold on easy payments. Shipped direct from warehouse in Los Angeles. For full particulars address **Capito Carriage Co., 12th and Main, Los Angeles, Cal**
Two Second-Hand Presses For Sale at a Bargain

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Loss of Valuable Cow.

In a letter direct to Mrs. Sherman, the writer says: "We always feel you to be a 'friend in need' and it is a great help to have you talk to us now every week in the 'Cultivator.'" Every word is read and "digested."

A neighbor of ours has just lost a valuable Jersey cow in calving. The cow was small, the calf quite large and he says the calf bag (the uterus?) came away. He tried to replace it, washing it off with water, as it lay in the dirt, but it slipped out again. He went for a veterinary surgeon, who roughly forced it back without washing it, the surgeon then put a horse collar on to the cow and fastened a bandage on to that, but a hemorrhage came on and in a short time the cow was dead.

You have had so much experience with cows that I feel sure similar cases must have come under your observation. Will you in your next article write on this subject? Also will you tell us if there is any danger of the other cows 'catching' it?"—R.

Give the cow an opiate to stop straining. A dose of two drams of opium in a little flaxseed or bran gruel is always to be depended on to make her quiet. Examine carefully, removing any portions of the after-birth. If the uterus is bleeding, bathing in a little cool water will check the flow. Thoroughly cleanse the parts in warm water, place a clean cloth under it and have two assistants hold it up. Then place the cow with her front feet in a hole in the ground. Cleanse the hands with good soap and water, finish with a rinsing of carbolic acid water or some other disinfectant. While this cannot be another than a septic operation still there is no use in making it any worse than it already is by dirty handling. Take the mass firmly, but gently in hand close up to where it leaves the body and press it closed hand into the body and put slowly back. Follow it with the the hand clear up, gently pressing out the folds to place. This will take a few minutes time, if strong contractions are not felt take a small piece of ice in the hand; this also serves to stop blood. In cases where the blood is flowing severely inject hot vinegar; this is an old, but almost certain remedy. Withdraw the hand carefully and have a large pad of absorbant cotton or of soft cloth soaked in carbolic acid water ready and have an attendant hold it in place while the truss is being made. A piece of leather six to eight inches long and four inches wide having two holes pierced in each end. If the leather is not at hand a stiff piece of oil cloth will do, or even a bit of new shingle. Put a horse collar upside down on the cow's neck and then tie to it at the top a piece of strong muslin, ten inches wide; bring this down the center of the cow's back, splitting it at the tail and tying each end into the holes on the top of the leather. Place the leather over the cotton pad. Take two three-inch strips of the muslin and tie to the bottom holes in the leather and pass one on each side of the cow's udder, bringing it forward

and up to the center of the back, there pin it securely into the wider piece of muslin. Then make a wide girth of the muslin and fasten around the cow's body, securing it firmly to the back piece. Take another piece from this girth between the front legs to the horse collar and tie it there. Keep the cow quiet and give her light feeds of bran with a small amount of long hay. Avoid heating foods or large quantities of green stuff. See that she has plenty of fresh water. Watch the truss and keep it firm for about two weeks. See that it does not chafe. Change the absorbant cotton pad daily or twice a day if there is need. Cows rarely die from this trouble if handled with reasonable care, but it becomes troublesome, as it is apt to recur at each freshening. Therefore, I should fatten the cow off for beef at the end of her milking period. No, it is not contagious.

Cooked Barley for Hogs.

Kindly give me through your columns the relative value of cooked or steamed barley over raw as a hog-fattening commodity.

Would also like the same information as to Indian, Kafir and Egyptian corn.—J. W. H.

The relative value of cooking feeds and feeding raw to hogs has been thoroughly tested at the various Experiment Stations and while there is an increased digestion it has not been found profitable enough to pay for labor and fuel used. In cold countries it adds more to the value than in countries like California. I have fed cooked barley, corn and bran with potato raisins and waste dried fruit, to one lot of pigs and another on the other ranch were fed the same mixture, or wet with cold water. The difference was triflingly in favor of the cooked feed, but the extra pounds on those porkers cost about a dollar a pound, so it proved not economical where it was necessary to count a man's wages for the time of cooking.

Pope Leo.

Is, or was there a stallion named "Pope Leo?" What breed, and a brief history of the horse.—M.

Will you kindly tell us the breed of the horse or at least whether he was draft stock or not? A question like this savors of a bet to be settled rather than a desire for exact information. If you have ever seen any of the get of this horse a reasonable guess could be made as to his breeding. Then it would be possible to apply to a Breeders' Association for his pedigree. As it is it would necessitate letters to many papers and some waiting to find out. Then the horse may have been a good cross-bred animal, but never a recorded one; one of the best horses ever around here, as far as crossing on all kinds of mares, was old Noel; he had five crosses of Percheron on thoroughbred and has of course never registered as a Percheron, though he produced splendid colts. If you believe there was such a horse, inquire of the old men around the livery stable in the neighborhood where the horse was located and the information will be gleaned at least as to what breed he represents.

Losing Milk.

Last month my cow slipped her calf at three months along. Since then she has trouble holding her milk; late in the day it begins to drop from her bag. Is there a remedy for the dropping of the milk?—T. E.

The usual remedy for dropping of milk is to slip on a rubber band like those used for holding together papers, over the lower end of the teat. It should be tight enough to hold back the milk, but not tight enough to cause strangulation. This is after all not a very satisfactory remedy but seems to be the approved one. The loss of calf did not produce the trouble; it usually comes from a relaxation of the muscle that closes the milk duct, as the result of an injury.

Black Combs.

Mrs. A. of Hollywood, wishes to know what makes her White Leghorn combs turn black; also why yolks of eggs are light yellow.

The trouble with a fowl when comb turns black is indigestion or some ailment caused by sluggish movement of blood; this may be caused by a number of things. It may be too rich food and not enough exercise, or lack of grit. Unless we know more of the conditions, feed and treatment, we can't give cause. Try giving plenty of green food; feed less grain, give plenty of grit and if possible more exercise and see if the color of comb is not improved.

The light yolks don't mean anything so far as eggs are concerned, but often the feed influences the color of yolk.

Feather Eating.

Will you please tell me whether there is any way to stop hens (S. C. White Leghorns) from eating each others feathers? I have quite a number in one of my yards that got the habit so that many of them are al-

most bare around tail and vent.—J. R. H., Arroyo Grande, Cal.

Your birds have a habit that once acquired is hard to break and is very



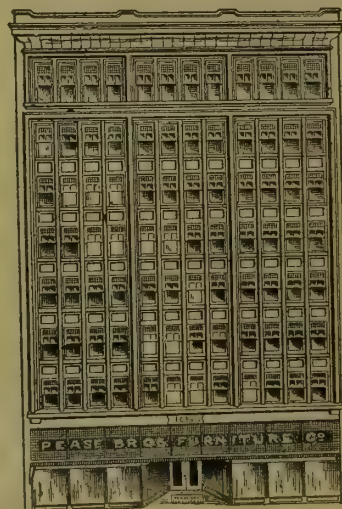
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often caused by not having enough meat ration. We would suggest feeding few that contains feather pickers quite a heavy meat ration or green bone—being careful not to feed enough to cause bowel trouble. If this does not break them remove the ones that have acquired the habit to a yard by themselves or send them to the butcher as the trouble will spread through your entire flock.

Lawn Clippings.

I would be glad to know if lawn "cuttings" soaked in water and kept for few days is good food for hens, as it gets a strong smell after the second day, and although the hens eat it and it does not seem to do them any harm I would like to be sure about it.—R. J. S.

We don't believe lawn cuttings fed to fowls after they have become sour will do your birds any good. You will have to feed a great deal of charcoal in order to absorb the gases. Lawn cuttings, if fed fresh, is one of the best kind of green foods, but we never feed it after it gets stale. Some dry the clippings, then soak up and feed as needed.

INTESTINAL WORMS.

The following from a subscriber in regard to intestinal worms, only shows one of the many troubles with which poultrymen have to contend. While the trouble is very annoying and often causes loss of both old and young stock, yet it is a subject upon which very little has been written, but with hygienic preventive measures and by using simple methods we can keep our flocks reasonably free from them.

"For nearly a year I have had no end of trouble with common intestinal worms in my hens. Have had the heads cut off of several, but ex-

perimented on one and saved her life, but don't know that it paid. The first I noticed wrong with her she could not use the muscle of her eyelid; then the toes of her foot on that side turned under when she walked. Now I knew what was the matter and fed her on garlic straight for two days when she refused to eat more. Then I gave her twenty drops of turpentine in a tea spoon of sweet oil and two days later repeated the dose. For two or three days she refused to eat; passed worms and got better but is still weak. Another good layer lost the use of her leg and I gave her three doses of twenty drops each of turpentine; then she dropped three worms and died and I did not blame her.

"Tell me how to save my young stock from getting the disease. They all have free range. Will thirty drops of turpentine in each quart of drinking water injure four-months-old pullets? I have heard that onions will prevent worms. If so, in what quantities and how often should they be fed?"

Turpentine given, as the letter states, will free the fowl from worms, but we believe to give a hen three doses of 20 drops each is too much; never give over two doses of 20 drops in a teaspoon of sweet oil. Then follow with a physic of one teaspoonful of castor oil.

In regard to 30 drops of turpentine to each quart of water for half-grown pullets as a preventive for worms, some authorities say that this will not keep the flock free from worms, but will cure those that have them; however, we think that 30 drops to a quart of water is a little strong and birds will get very thirsty before they will drink the water con-

taining so much turpentine. We would recommend one teaspoon of sulphur for 12 hens fed in a mash, also use sanitary methods, see if you can't get rid of the trouble in this way:

If possible move your yards to fresh ground and remove the afflicted ones from the flock; clean the droppings from the houses each day and destroy any parasites or their eggs which may be in them, with quick lime or by burning. As long as the sick fowls remain in the flock and the well ones are allowed to scratch and pick at the droppings, you will continue to have trouble. We don't believe onions or garlic, even though fed liberally, will prevent the trouble.

THE FARM MORE ATTRACTIVE.

In the past few years there has been less tendency of changes from farm to town life than formerly. There are several reasons why this is so. One is that agriculture has come to be better understood as appealing to the best thought and higher qualities of scientific research. The agricultural colleges of the several states have contributed their share in this belief, as for years past the graduates of these colleges have gone back to the farm, and are found in every section of the country where their work is being appreciated. Such quickened intelligent work begets a love for farm life.

Another factor entering into this question was the establishing of telephone systems of all the farms of the country, bringing farm and town together in quicker knowledge of what is transpiring in the world, and especially in better business and social relations. The building of electric railways over the country is another important matter destroying distance between farm and market centers, and

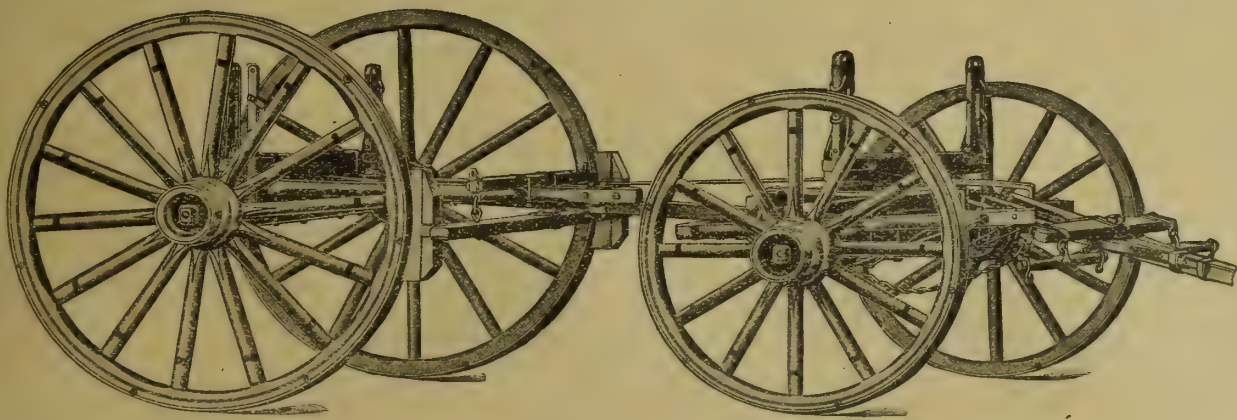
bringing all classes into social relations. The rural free delivery of the mails is adding greatly to these better conditions. Out of all these things have come better prices for farm products, readier sale and greater demand for them. The old methods of barter have not only disappeared but are almost forgotten, and farm products command cash. The improved methods of cultivation and transportation have leveled the distinctions which once prevailed to some extent, and have made farm and town unite in progress and common interest, and brought about in some sections almost as great a tendency from town to country as exists from country to town.

JOHNSON GRASS.

The results in investigations in eradicating Johnson grass, are given in Farmers' Bulletin 279, U. S. Dept. Agriculture, in which the results of investigations on the eradication of Johnson grass are reported and discussed.

It appears that the best method is to turn the land into meadow or pasture, keeping the grass closely cropped, either by grazing or mowing, for one or more seasons. The grass should never be allowed to stand after blossoming. After the sod has remained undisturbed for a year shallow plowing, with subsequent cultivation, is recommended. Running an ordinary turning plow from three to four inches deep will generally turn up all the root stock, and if the land is then planted to a cultivated crop and given good cultivation the Johnson grass may be eradicated. Any shoots missed by the cultivator should be removed by hand before heading out.

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Household Department

A LOST CHORD.

Seated one day at the organ,
I was weary and ill at ease,
And my fingers wandered idly
Over the noisy keys.
I do not know what I was playing,
Or what I was dreaming then;
But I struck one chord of music,
Like the sound of a great Amen.
It flooded the crimson twilight,
Like the close of an Angel's Psalm,
And it lay on my fevered spirit
With a touch of infinite calm.
It quieted pain and sorrow,
Like love overcoming strife;
It seemed the harmonious echo
From our discordant life.
It linked all perplexed meanings
Into one perfect peace,
And trembled away into silence
As if it were loth to cease.
I have sought, but I seek it vainly,
That one lost chord divine,
Which came from the soul of the organ,
And entered into mine.
It may be that Death's bright angel
Will speak in that chord again,
It may be that only in Heaven
I shall hear that grand Amen.
—Adelaide Anne Proctor.

THE AMATEUR UMBRELLA MENDER.

GILBERT REYNOLDS glanced at his reflection in the mirror and laughed. He was a tall fellow, with bushy brown hair, a Roman nose and a very determined-looking mouth and chin. Just now he had buttoned himself up in an old duster and pulled a soft felt hat down over his eyes and with his brother-in-law's umbrella and his sister Amy's parasol under one arm and his own umbrella under the other, he cut very much the same figure as the man who went the round of the city crying: "Umbrellas to mend."

It was just six o'clock and beginning to grow dark when Gilbert left the office. Some gray clouds were scurrying across the autumn sky and a few chilly raindrops splashed on the pavement.

Gilbert started briskly in the direction of home, busy with his own thoughts, until his attention was attracted by a sudden tap on one of the windows of an old-fashioned dwelling house which he passed every day.

Looking up, he saw to his astonishment a very pretty girl beckoning to him. Her hair was fair and curled about her forehead and neck in loose ringlets; and a roguish-looking dimple kept guard at the corner of her smiling mouth.

Now Gilbert was too gallant a young fellow to pass on unheeding while a pretty girl like that beckoned to him. He paused, smiled and would have raised his hat had he not been, as I have already told you, burdened with umbrellas.

The young girl threw up the window and called to him in a sweet, clear voice:

"Wait a minute, please! I have an umbrella for you!"

And immediately she vanished.

Gilbert stood for an instant quite dumfounded, and then, as the ludicrousness of the affair rushed over him, he burst into a little laugh of amusement, calming himself, however, when the front door opened.

She had mistaken him for the umbrella man.

Gilbert was young, and of course admired a pretty girl; so he at once decided to accept the situation, as it promised further opportunity of seeing his charming creature.

So, when she appeared with a

black silk umbrella in her hands, he turned to her with grave attention.

"The handle is broken, you see," she said, "and the spring," partially opening the umbrella and shaking out the dark folds with her fair little hands. "I have been watching for you all day," she added naively; and Gilbert's heart leaped into his throat.

How nice it must be to have that dear little thing watching for a fellow every day!

The young lady turned a little anxious look upon him with a pair of wide, blue eyes.

"Do you suppose it can be mended?" she asked confidently.

"Oh! yes, indeed!" was Gilbert's reckless answer, although he knew no more about it than she did.

"And when can I have it?" "Tomorrow," said Gilbert, promptly, congratulating himself on the prospect.

"So soon. Very well." She nodded her bright little head at him and ran up the steps while Gilbert passed on with an additional umbrella in his hand and visions of golden curls, blue eyes and rosy lips mingling in delightful confusion in his brain.

That evening he sat down to supper with a dreamy and abstracted air. His sister tried to rally him.

"Gil," she said, "your future wife is in town."

"Eh—what?" said Gilbert.

"The girl whom I have decided upon for my sister-in-law," pursued Amy, laughingly. "She was in the same class as I at school. The family have just moved to town and next week you must call with me."

"Well, I'll see about it," said Gilbert dreamily as he put a teaspoonful of salt into his second cup of coffee. Amy looked at him with wide-eyed amazement.

"What has come over the boy?" she ejaculated. "Gil, dear," leaning across the table, "you have not been gambling or robbing the bank, have you?"

Gilbert shook his head as a reply.

The next morning on his way to the city he rang the bell of the house which contained his unknown beauty.

The young lady opened the door.

"I shall not be able to return your umbrella to-day," he explained, glibly. "It will take longer to repair it than I expected. To-morrow, without fail, I will bring it."

(Gilbert had left the umbrella with an old man, whose sole employment consisted in mending chairs, umbrellas and musical instruments.)

"Oh! very well," said the little lady, as she cast a smiling look at the clear sky and another at the young man, who, in his neat business suit, presented a different aspect from the rather rough-looking figure of the previous evening. "There is no particular hurry about it, so long as the weather is fine."

And then, as he went striding away, she looked after him.

"What a very respectable-looking person he is for one in his position," she murmured.

The next day Gilbert was prompt with the umbrella, and the young lady as prompt with her purse. She looked her property over with a little nod of satisfaction.

"That looks very well," she said. "And now, how much am I to pay you?"

Gilbert hesitated, faltered and flushed and finally stammered like the man whom Dickens has made famous:

"It's of no consequence."

But the amused surprise in the girl's face brought him to his senses, and he coolly named the price which he had that morning paid to the old man. It is safe to say that the silver coin which passed from the girl's hand into his was out sacredly away; for by this time Gilbert was very far gone. The bright eyes and sweet voice had quite bewitched him.

On the following week Amy insisted upon Gilbert calling with her on the young lady whom she declared he should marry.

"She is the dearest girl in the world," said Amy, enthusiastically, "and the very prettiest. You will be sure to like her."

"Oh! yes, I know," drawled Gilbert; "a tall, dashing girl, with flashing black eyes and an awful temper. Of course, I must go with you, sis; but don't build any matrimonial air-castles, for my heart is no longer in my own keeping."

And he straightened his tie with a sentimental sigh, and took his silk hat in one neatly-gloved hand.

Amy looked at him sharply as they started off together. Was her pet brother really in love with some strange girl?

"What a goose you are, Gil!" she said, half provoked. "Claire doesn't answer to your description at all—wait until you see her."

Great was Gilbert's surprise when his sister led him up the steps of the identical house which contained his unknown divinity, and great was the unknown divinity's surprise when her old friend, Mrs. Ross, introduced as her brother the tall young man who had taken her umbrella to mend!

Gil smiled into the wide, blue eyes of Miss Claire Edmonds and bowed low before her, while she, after one swift, bewildered glance, burst into a merry peal of laughter in which she was joined by Gilbert.

"Why, it's the umbrella man!" she exclaimed, and Amy looked on in blank amazement, wondering if her brother and her friend had taken leave of their senses.

Explanations followed. Of course my readers may imagine that Gilbert's first call was not his last one and that Amy's matrimonial air-castles were built of substantial material, for Gilbert Reynolds and the pretty, fair-haired girl are happy when sharing one umbrella and they are soon to be married.—Stanley Hammond in Farmer and Stock Grower.

A suggestion to travelers: In packing trunks there often comes the final hour of desperation, when, after last calls, muddy boots go in on top of a jet bonnet and the last delay washing on top of that; or perhaps unread papers with some friend's speech are sacrificed to wrap up these shoes. To avoid this dilemma, make several pairs of bags of light-weight washable stuff (pieces of summer dresses, percale, lawn, etc., may be used); make but one pair of each color. Put each shoe or slipper with its own bag, not a pair together, and they will rub and will not pack to advantage. In searching for them, the color of the bags show which are mates.—Woman's Home Companion

A good many people have the courage of other people's convictions.

RECIPES.

Baked Fish.

Bass and pike are large fish, therefore are suitable for baking. Cleanse and fill with stuffing, sew the fish up, spread thickly with butter, dredge with flour. Add one teacup of boiling water to some hot butter in a baking pan, lay the fish in and bake for one hour, basting often. Remove the fish when done, add browned flour and butter to the gravy, cook a few minutes, then pour around the fish. Garnish with thinly sliced lemon and sprigs of parsley.

Lettuce in Hot Weather.

Cook a quart of canned tomatoes, drain and season. While hot add a half box of gelatine dissolved in a cup of cold water, stir well until the gelatine is all dissolved. Pour into shallow dishes or small molds. Serve on individual plates in leaves of lettuce with chopped celery and salad dressing.

Scrambled Eggs With Bread.

Cut a slice or two of bread into dice and put them in a frying pan with some butter; when they are brown eat up a few eggs with a little salt and turn them into the pan, stir up all together.

Baked Mutton Chops.

Mutton chops may be cooked in a broiling-pan in the oven instead of broiling or frying and with a tomato sauce this makes a fine dish. Lay the chops in the pan and season with salt and pepper. Make a sauce by cooking together two tablespoons of butter and two of flour until smooth and slightly browned; mix in a quart of fresh or canned tomatoes, also a saving of onion and two or three cloves. Stir and cook the whole for ten minutes, then season with salt and pepper and strain it over the chops. Cook in a hot oven for about thirty minutes. The same sauce is good with a rather dry fish, such as cod or haddock.

Potato Fritters.

Bake eight large potatoes in their skins until tender scoop out the insides and mash; add to them half a pint of milk with one egg beaten in, a tablespoon of grated cheese, a small piece of butter, and salt, pepper and nutmeg to taste. Stir to a perfectly smooth batter and fry as ordinary fritters. Drain on blotting or glazed paper and serve very hot.

THE BEAUTIFUL HOME.

I never saw a garment too fine for a man or maid; there never was a chair too good for a cobbler or a cooper or a table too good for a house too small to shelter the human head. Elegance fits man. But do not we value these tools a little more than they are worth and sometimes mortgage our house for the mahogany we bring into it? I had rather eat my dinner from the head of a barrel or dress after the fashion of John the Baptist in the wilderness or sit on a block of my life than consume all myself before I got to a home and take so much pains with the outside that the inside was as hollow as an empty nut. Beauty is a great thing, but the beauty of garment, house and furniture are tawdry ornaments compared with domestic love. All the elegance the world will not make a home, and I would give more for a spoonful of real hearty love than for whole loads of furniture and all the gorgeousness the world can gather.

—Oliver Wendell Holmes.

HOMELY HINTS.

Cheap kerosene used in cleaning windows will make them smeary.

Dish towels should be washed and hung in the sun to dry after each using.

If suet which is to be chopped is first sprinkled with ground rice it will chop more easily.

Dried and hardened lemons will become quite soft again if allowed to soak in cold water for a time.

Stains on knife handles may generally be removed by rubbing them for a few moments with a damp cloth dipped in kitchen salt.

To clean zinc, mix whiting with ammonia into a smooth paste and apply it to the zinc with a soft wollen cloth. Let the whiting dry and then rub it off with a piece of flannel.

To remove oil stains from wood make a stiff paste of pipeclay and water and spread it on the stains. Leave till the next day, then remove the pipeclay, when the stains will have disappeared.

A whisk broom cut so that it tapers to a point at one side is convenient for brushing down the stairs. An old whisk broom which is partly worn out will do for this purpose just as well as a new one.

Never wear new stockings till you have had them washed, for the washing somewhat shrinks and toughens the fibre of the wool and they will not be so liable to go into holes as if worn directly they were bought.

Ordinary washing with soap and water will not generally remove the stains on egg spoons. Take a piece of flannel, damp it and dip it in table salt. Then rub the stains with this and they will rapidly disappear.

Paint marks on glass may be removed by moistening them with a strong solution of ordinary soda, which will loosen the paint. When all the stains are rubbed off polish with a little methylated spirits and a soft cloth.

The rind or skin of a pineapple contains an acid that affects the mouth and lips unpleasantly. For this reason the knife used for paring this fruit should never be used for slicing it without being thoroughly cleansed first.

If you want to shut off any view you can do it very cheaply with an imitation of ground glass. Dissolve as much Epsom salts as the water will absorb in a little hot water and paint it over the inside of the window. When dry you will have a very fair imitation of ground glass.

An ingenious woman has suggested a safe way of sending coins by mail when a coin card is not at hand. She places the coin between two thicknesses of blotting paper, which have been cut out a little smaller than the envelope and runs a line of stitching around the coin to keep it from slipping. The blotting paper is thick and light and will serve to keep the coin from wearing a hole in the envelope and from being noticed.

The quickest way to ruin an electric flatiron is to allow it to become over-heated. If the iron is in use the current may be turned on for a long period of time without injury to the iron, as the heat is thus dissipated by contact with the fabric being ironed. To go away, however, to answer the telephone or doorbell and leave the current on is decidedly injurious. After a few such experiences the iron will be burned out and cannot be repaired.



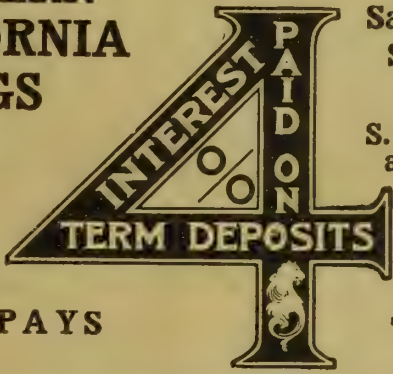
Hard hitters receive hard knocks and must be made to resist them. The man who bought a nameless hammer a year ago probably has a useless hammer to-day, with a battered, chipped and broken face, and a handle that continually comes out. To get a hammer that will last a lifetime, that never chips or breaks—that never works loose or flies off the handle—that drives straight and true—you must ask for a Keen Kutter Hammer.



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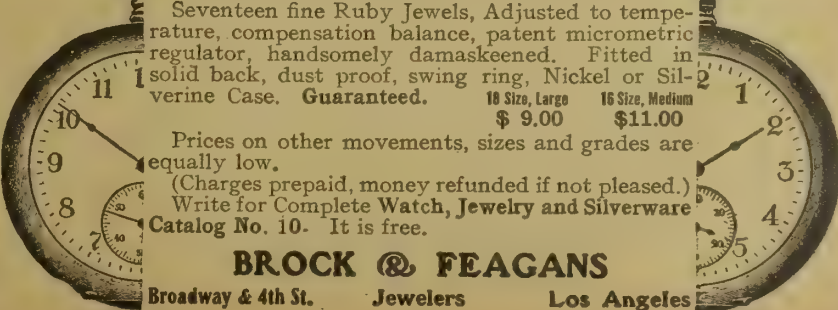
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AT REDUCED PRICES BALANCE OF season from prize winning Barred Rocks; won all special and 13 regular prizes on Barred Rocks at late Los Angeles show. Eggs from best pens, \$2.50 per 15; \$10 per 100. Can furnish any quantity. Also offer extra bargains in breeding stock. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

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S. C. WHITE LEGHORN EGGS FROM THE bred-to-lay Blanchard strain. Large Birds. \$1.00 for 15; \$6.00 per 100; Free city delivery. C. M. GIBBS, R. F. D. No. 4, Los Angeles, Cal. Phone W. 591.

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FOR SALE—ONE 10-H. P. OTTO ENGINE. Thoroughly overhauled and tested; at very low price. One 15-H. P. Fairbanks-Morse Engine secondhand; also one 25-H. P. Fairbanks-Morse Engine second hand. These engines are the equal of new in appearance and quality. We renew the manufacturer's guarantee for one year. WAITE, BAILIE, 943 N. Main St., Los Angeles.

FARM LAND.

ROGUE RIVER VALLEY—IF YOU ARE interested in Southern Oregon write for 64-page book, profusely illustrated, describing bountiful resources. No frost damage to fruit in twenty-eight years. Address, Box 41, MEDFORD COMMERCIAL CLUB, Medford, Oregon.

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JUBILEE POULTRY FARM, 80 ACRES, well improved, 2000 healthy chickens, horses, cow, implements, vehicles; 6 large incubators and brooders; pumping plant, \$7500 takes crops and all; a snap; easy terms. WM. MANTZ, Santa Maria, Cal.

FOR SALE—20, 30, OR 40 ACRES OF FINE farming land, 1 1/2 miles from electric cars. Artesian water; gum grove; fenced; cultivated. Adjoining lands sold for \$250 and \$300 per acre. This only \$150 per acre. J. L. TUMMOND, Buena Park, Cal.

WANTED—LINDSAY NAVEL GROVE OF 10 to 20 acres, in full bearing and good condition, for a client. L. M. PRATT & Co., 608 Laughlin Bldg., Los Angeles.

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WANTED—ORANGE OR LEMON GROVE of 5 or 10 acres partly or all in bearing with buildings; prefer Los Angeles County; have a customer. L. M. PRATT & Co., 608 Laughlin Bldg., Los Angeles. Headquarters for orange groves.

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3000 GOOD, THRIFTY WASHINGTON NAV- EL and Valencia late trees; 1 and 2 years old; at the right price. Free of scale and smut. C. D. HUBBARD, San Fernando, Cal.

LIVE STOCK.

FOR SALE—ENTIRE HERD (9) REGIS- tered Jersey cattle; 4 cows; 2 bulls; 3 heifers. Prices, about one-half their real worth. Also young Poland China hogs. Write me your wants. J. L. TUMMOND, Buena Park, Cal.

At a meeting of fruit men held in San Francisco, July 9th, called because of the "unwholesome sulphured fruit" ruling by the Agricultural Department, the following resolution was passed: "It is unanimously decided that the United States Department of Agriculture be urged to delay all action upon the use of sulphur in the preparation of dried fruits as now prepared under our methods in California until some efficient substitute is introduced. Otherwise, our industry will be sacrificed."

Over 4000 acres of sugar beets are planted in Tulare county for the delivery to the Pacific Sugar Company.

The Produce Markets

Los Angeles

Markets

Butter.

LOS ANGELES, July 24, 1907.—Butter and eggs show the most activity in the market this week and are both advanced strongly over last week's quotations. Best grades of creamery now command 65 cents per roll. All better grades are well cleaned up.

Creamery extra.....@65
Creamery first.....57 1/2
Dairy.....51
Cooking.....23

Cheese.

Cal. Young America, per lb.....19
Hand.....20
California Anchor.....18
Cal 3-lb. hand.....20
Northern fresh.....16 1/2
Domestic Swiss.....22
Imported Swiss.....32

Eggs and Poultry.

Eastern eggs continue to come in large quantities, but they have not prevented a stiff rise in the local fresh stock. In fact, the increased quotations are so pronounced that the condition looks speculative and the claim is made that the mark-up was purely arbitrary by the wholesalers.

The prices given are those of the commission man to the retailer.

Eggs local candled.....28@28 1/2
Eggs case count.....26@26 1/2

The following are average prices which dealers pay to producers for live weight.

Hens per lb.....13
Young roosters, per lb.....15
Fryers.....17
Broilers per lb.....17
Old Roosters.....7
Turkeys.....17
Geese.....12
Ducks.....10
Squabs per doz.....1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs, from 175 to 200 lbs.....7 1/4
Prime steers.....4 1/4@4 1/2
Heifers.....3 1/2@4
Calves, per lb.....4 1/2@5
Sheep, ewes, per head.....4.75@5.25
Lambs, per head.....4.00@4.50
Wethers.....5.50

Potatoes.

Potatoes remain practically unchanged and at same quotations as last week.

Early Rose.....1.75@1.85
White.....1.90@2.00
Local Burbanks.....2.00
Sweet potatoes per lb.....8 1/2

Onions.

Onions are shading constantly, as the larger supplies come in. The supply is nearly equal to the demand now and further lowering in price is predicted.

Silverskins per ctl.....3.00
Australians.....2.75@3.00
Imperials per sack.....4.00
Garlic.....9

Vegetables.

Asparagus lb.....12 1/2
Artichokes.....65@80
Beets per doz.....30@40
Bell Peppers green lb.....4@8
Beans wax.....8
Beans Limas.....50@75
Cabbage, sack.....2
Cabbage red per lb.....75@1.25
Celery hothouse per doz.....12 1/2
Chili peppers green.....30@50
Cucumbers per 20 lb box.....60@75
Corn per box.....1.25
Cauliflower.....30@40
Carrots per doz.....15
Egg plant per lb.....10@30
Green Onions, doz bunches.....75@1.25
Lettuce per crate.....75@1.25
Peas sugar per lb.....20
Okra, per lb.....1.50
Rhubarb per box.....15@20
Radishes per doz.....10@15
Spinach, per doz.....30@40
Summer squash crate.....40@50
Tomatoes per basket.....40
Turnips, doz bunches.....40
Water Cress per hundred.....40

Citrus Fruits.

Valencias.....1.50@2.75
Navels.....1.25@2.00
Grapefruit Seedless.....2.00@2.50
Grapefruit Seedlings.....1.25@1.35
Seedlings.....1.25@1.50
Lemons, fancy.....2.00
Lemons, choice.....1.25@1.50
Tangerines, halves.....1.50@1.75

Fresh Fruits.

Fresh fruit is being offered more freely and some shading in prices is noticed, but as a whole a fair condition prevails.

Apples Red Astrachans box.....90@1.15
White Astrachans.....2.50
Pearmain.....1.75@2.00
Crab Apples.....1.00@1.61
Apricots.....2.25
Blackberries.....6@7
Cantaloupes, crates.....2.00@2.50
Figs black per lb.....5@6
Figs, white.....10
Grapes, per 4 bskt crate.....1.30@1.75
Gooseberries per lb.....8
Logans.....7@8
Nectarines.....1.25
Pears.....2.25
Peaches per box.....75@90
Plums Simonas.....1.15
Plums Tragedy.....1.25
Sugar Prunes.....90
Raspberries.....8@9
Strawberries.....4@8
Watermelons per lb.....1 1/2

Dried Fruits.

The dried fruit market is unsettled owing to the pure food ruling on sulphured fruits. So far as any quotations are made, they are the same as for some time past.

Evap. Apples, fancy per lb.....8 1/2@10
Apricots.....20@22
Peaches.....12 1/2
Pears.....13

Beans, Dried

Limas per ctl.....5.30
Pink No. 1.....3.00
Lady Washington.....2.90
Small White.....3.20
Black Eyes.....5.50@6.00
Garvanzas.....5.75@6.00
Lentils.....12 1/2@15

Honey

The prices we give are those at which the jobber sells to the grocer in small lots. The producer should take from this one cent a pound commission and freight to Los Angeles, and there will remain the net returns to him.

Extracted White.....5@5 1/2
Light Amber.....5@5 1/2
Comb, water white, 1-lb. fms.....12@15
Light Amber.....10@12

Nuts.

Almonds per lb.....19@25
Peanuts, Virginia.....9
Peanuts California.....6@7
Walnuts, No. 1 S. S.....14@15

Hay.

Barley, No. 1.....14.50@16.00
Barley, No. 2.....11@12
Alfalfa Northern per ton.....13.00
Alfalfa new local.....12.50@13.00
Plain oat No. 1 new.....13@14
Wheat No. 1.....12@14

Grain.

Purchasing prices f. o. b., Los Angeles are:
Wheat, new, per cwt.....1.70@1.75
Wheat, Sonora.....1.52 1/2@1.57 1/2
Barley.....1.17 1/2@1.22 1/2
Corn, Eastern, sacked.....1.50

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn.....1.65
Shorts.....1.45
Bran.....1.30
Egyptian corn.....1.65
Rolled Barley.....1.40
Feed meal.....1.70
Kaffir Corn.....1.65

Riverside Press gives valuable information regarding the productions of that county and especially of the grain and hay grown during the past year. In it it claims that 36,000 tons of alfalfa were produced in that section, and that it will aggregate \$500,000.

Vista Bonita Valencias, from the orchard of J. A. Graham four miles east of the town of Hemet brought \$4.60 a box in New York, and \$4.35 a box in Boston Tuesday, the 9th of July. These were the highest prices paid that day.

The apple industry of this State should be stimulated by the fact that this country is now importing quantities of apples from Australia.

One firm has closed for 500 tons of peaches to be shipped out of Hanford for canning purposes.

A thousand tons of peaches were contracted for in one day by the Fruitvale cannery.

San Francisco Markets

Butter.

SAN FRANCISCO, July 23, 1907.—Butter has taken an advance of a cent and one-half during the week and the market is strong, especially on the better grades.

California extras.....26 1/2
California firsts.....27
California seconds.....28
California thirds.....22 1/2@23
Facing stock.....22 1/2@23

Cheese.

California Young American fy.....14
California flats fy.....14 1/2
Eastern fancy.....14 1/2

Eggs and Poultry.

Eggs are quoted lower than last week which is regarded as only temporary.

Fresh ranch eggs.....2
Eggs first per doz.....2
Eggs seconds per doz.....19
Eggs thirds.....1

The market is decidedly weak and the demand small. Dealers had plentiful supply on hand and fortunately there are no additional arrivals from the East. The best grades are held fairly steady, but all other varieties are neglected.

Hens, per doz.....5.00@5.50
Hens large.....5.50@6.00
Young Roosters.....6.50@7.00
Old Roosters.....4.00@4.50
Fryers, per doz.....4.50@5.50
Broilers, per doz.....2.50@3.50
Ducks, young.....4.00@5.00
Geese, per pair.....1.50@2.00
Turkeys, per lb.....1.60
Pigeons.....1.25@1.50

Live Stock.

Steers No. 1.....7 1/4@8
No. 1 Cows and Heifers.....6 1/2@7
Hogs, 80 to 200 lbs.....7
Hogs 200 to 300 lbs.....7
Calves, per lb.....5.00@5.50
Lambs, yearlings.....6.00@6.50
Wethers, No. 1.....5
Ewes, No. 1.....1.25@1.50

Potatoes

Potatoes are still in heavy oversupply and, while prices rule quite low, there are some dealers still willing to shade their asking figures in order to get rid of some of the supply.

River Burbanks.....2.25@2.50
River whites.....2
Early Rose.....1.50@1.75

Vegetables.

Asparagus.....7@
Cucumbers per box.....40@
Corn per sack.....1.50@2
Chili peppers green lb.....6
Bell peppers.....6
Green peas per lb.....2
Peas, per box.....50@
Peppers Green Bell.....20@
Rhubarb per box.....50@
Tomatoes California.....1.75@
Wax beans.....5
Garlic.....5

Onions.

Onions, new Reds.....2.60@
Onions, Br Australia, per ctl 3.50@
Onions, new Yellow.....2.65@

Citrus Fruits.

Valencias.....2.00@
Seedlings.....1.25@
Grapefruit, seedless.....1.75@
Limes.....4.50@

Fresh Fruits.

Trading in fresh fruits was rather small yesterday, but there were noticeable changes in the prices. The best class of berries were more closely held and generally a little higher, while some of the other varieties were slightly lower. Receipts of the day were greater than the requirements and the close some of the dealers rather heavy supplies on hand. The strawberries met with a good inquiry and prices were held very steady. Blackberries were unchanged, while loganberries and raspberries were advanced in price. Peaches showed little change, the receipts being small and the quality of the stock rather inferior. Cherries are very scarce and dull.

Apples, per box.....1.00@
Apples, new, per small box.....3.00@
Apples, new, per large box.....75@
Crab Apples.....75@
Apricots, per box.....1.50@
Apricots, per lb.....1.50@
Blackberries per chest.....4.00@
Currants, per chest.....12@
Cherries per lb.....12@
Figs 1 layer.....75@
Figs two layers.....75@
Gooseberries per lb.....2
Grapes, per crate.....2

organs per chest8.00@9.00
 alons per crate.....1.25@1.75
 umps per box......50@1.00
 achas per box1.00@1.25
 rtlets......1.75@2.00
 aspberries per chest...7.00@10.00
 rawberries per chest...7.00@9.00
 atermelons per doz...1.00@3.00

Dried Fruits.

pples (evap.) 6½@8
 ricots, per lb, new22½@27
 gs, white 4@5
 unes, 4 sizes4@4½
 achas10@13
 ears8½@11

Beans, Dried

mas No. 15.25@5.40
 nk.....2.60@2.75
 rge white2.50@2.60
 mall white.....2.90@3.00
 ck Eyes.....4.85@5.00
 d Kidneys.....3.25@3.50
 yo3.20@3.30

Hops.

ops, new, future delivery, per lb 9@11
 ops, old, fancy9½@10
 ops, choice7@9
 ops, common5@6

Nuts.

monds, new17½@18
 anuts, California5½@6½
 alnuts12@16

Honey

ear white comb.....15@17
 mber12@15
 rtracted.....5@7½
 eswax No. 2 per lb.....23@25

Hay.

alfalfa, local10.00@13.00
 t.....15@17
 eat, No. 118.00@20.00
 eat, No. 213.00@15.00

Grain.

heat, No. 11.52½@1.55
 rley, No. 11.22½@1.25
 orn small yellow1.60@1.60
 orn large yellow.....1.50@1.55
 uts white.....1.45@1.47
 ts, Red.....1.60@1.75

Feed Stuff.

on per ton19.00@22.00
 raw per bale.....60@90
 ed corn meal per ton.....32@33
 acked corn per ton.....33@34.50
 l Cake Meal per ton.....40.00@41.00
 oconut cake, per ton25.00@26.00
 ddings27.00@30.00

Citrus Market

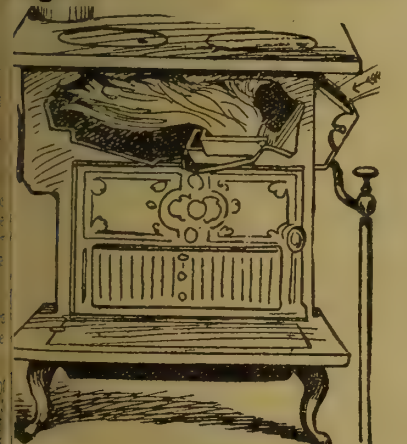
LOS ANGELES, July 24, 1907.—Valencias are still soaring and the few that now remain will go forward rapidly. Lemons are strictly in it and are going forward as rapidly as they can be delivered.

Shipments.

Shipments of Citrus fruits to date are 2569 of which 3912 are lemons. Same date last year 24,344 of which 3095 were lemons.

ST. LOUIS, July 22.—Weather hot and muggy. Three cars sold. Four cars on track.

LEMONS—
 Harbor, fy Chas Mohnike.....\$4.20
 ab ch S T Ft Ex.....3.30
 Standard st Chas Mohnike.....3.40
 lmonade st S T Ft Ex.....3.90

Domestic Oil Burner

Showing the Method of Attaching to Cook Stove

A device for using low grade distillate. Saves 40 per cent of cost of coal or city gas—let us prove it. Write for circular.

Domestic Oil Burner Co.
 24 Winston St. Los Angeles, Cal.

SWEETS—

Aster o r Strachan Ft Co.... 3.85
 Papoose ch Strachan Ft Co.... 3.20

CLEVELAND, July 22.—Market firm; Weather muggy; two cars sold; three cars lemons on track.

ST. MICHAELS—

Success o r F H Speich & Co..... 4.55
 Our Popular xc F H Speich & Co.. 3.15

SWEETS—

Success o r F H Speich & co..... 3.15
 Our Popular xc F H Speich & Co 1.75

LEMONS—

Whittier, ch S T Ft Ex..... 5.40
 Pico st S T Ft Ex..... 5.40

NEW YORK, July 22.—Market is very strong. Twenty-five to 50c higher; Valencias; unchanged on others. It is partly cloudy.

VALENCIAS—

Old Mission, fy Chapman Fulln.. 6.65
 Old Mission ch Chapman Fulln.. 6.10
 Golden Eagle st Chapman Fulln.. 5.15
 Lion Head xfy I L Lyon & Sons 5.45
 Tiger Head xc I L Lyon & Sons.. 5.50
 Clover xc Redlands O G A..... 4.65
 Standard st Nat O Co..... 3.30
 Quail xc O K Ft Ex..... 5.60
 Aurora o r Edmund Peycke.. 4.30
 Deal o r Edmund Peycke.. 4.25
 Mt. Lion fy F H Speich & Co.. 4.35
 Bronco xfy West Amer Ft Co.. 5.65
 Herald xc West Amer Ft Co.... 4.65

SWEETS—

Lochinvar xc Red Highland Ft Ex 4.15
 Belt st Red Highland Ft Ex.... 3.75
 Whittier xfy Redlands Junc..... 4.35
 Whittier xc Redlands Junc..... 3.75

ST. MICHAELS—

Whittier xfy Redlands Junc..... 5.10
 Whittier xc Redlands Junc..... 5.25

GRAPEFRUIT—

Rose xfy Redlands O G A..... 2.35
 Whittier xc Redlands Junc..... 1.60
 Silver Buckle fy Red-High Ft Ex 2.00
 Whittier ½s xfy Redlands Junc.. 1.00

BOSTON, July 22.—Market is very strong. Weather is hot and muggy. Twelve cars on track.

VALENCIAS—

Lion Head xfy I L Lyon & Son... 5.05
 Rose xfy Redlands O G R..... 4.95
 Cal. Beauty fy Worthley & Strong 4.75
 Camelia xfy Red Mut Or Co..... 4.70
 Eagle ?..... 4.70
 Clover xc Redlands O G A..... 4.55
 Solano o r Stewart Ft Co..... 4.25
 Tiger fy S B Ft Ex..... 4.15
 Blossom xc Redlands O G A..... 4.15
 Buffalo ?..... 3.75
 C. S. O. st S B Ft Ex..... 2.65

GRAPEFRUIT—

Tunnel ch S T Ft Ex..... 1.95

SWEETS—

Tiger fy S B Ft Ex Colton..... 3.50

MEDITERRANEAN SWEETS—

Tunnel ch S T Ft Ex..... 3.65
 Urchin st S T Ft Ex..... 3.15
 Tunnel ch S T Ft Ex..... 3.65

ST. MICHAELS—

Tunnel ch S T Ft Ex Fernando... 3.60
 Tunnel ch S T Ft Ex Fernando.. 4.20

GRAPEFRUIT—

Tiger fy S B Ft Ex Colton..... .60
 Tiger ½s ch S B Ft Ex Colton.. .30
 Floral ½s ch S B Ft Ex Colton.. .30
 Camelia xfy Red Mut O Co..... 1.45

PITTSBURG, July 22.—Market is strong. Weather hot. Three cars sold.

VALENCIAS—

Limited fy Strachan Ft Co..... 4.90
 Papoose ch Strachan Ft Co..... 4.40
 Pyramid o r Strachan Ft Co..... 4.65
 Aster o r Strachan Ft Co..... 4.75

SWEETS—

Mt. Lion fy F H Speich 3.35

GRAPEFRUIT—

Aster o r Strachan Ft Co..... .80

CINCINNATI, July 22.—Market is steady. Weather hot. Two cars on track.

LEMONS—

Corona Beauty Q C Ft Ex..... 4.30
 Maine ch Sparr Ft Co..... 3.60
 Grove ch Q C Ft Ex..... 4.15
 California ch J Curtis Ft Co..... 3.60
 Messinas..... 3.25
 Senorita ch Sparr Ft Co..... 3.60

NO TAXATION OF YOUNG TIMBER.

California forestry would be greatly advanced by relief from taxation of young growing timber, and a greater planting would be stimulated in a way gratifying to all. In Indiana they are discussing the relief of young timber from taxation. Though forest lands bring little or no income, they are taxed on their value as determined by what they would produce if cleared and cultivated. So that while the State encourages forestry, it at the same time in effect forbids reproduction of forests by private owners. It is said that under the State Constitution the only chance of exemption of young forests from taxation would be by classifying this as scientific. But unless the Constitution prescribes the principle of assessment, it would seem easy to reduce the taxation to a nominal figure.

TREE PLANTING IN NORWAY.

Norway is one of the lumber reservoirs of the world; yet the Norwegians appreciate the advantage of renewing their woods before they are exhausted. Tree planting has attracted much attention in recent years. United States Vice-Consul Alger reports there were nearly seven million trees planted in 1905, of which one million five hundred thousands were by school children and other young people. Forest planting is being introduced into the public schools.

THE TREE PLANTER.

He who plants a tree,
 He plants love;
 Tents of coolness spreading out above
 Wayfarers he may not live to see.
 Gifts that grow are best;
 Hands that bless are blest;
 Plant, life does the rest.
 Heaven and earth help him who plants a tree,
 And his work its own reward shall be.

The returns from oranges have been so satisfactory during the past season at Lindsay that improvements in the older orchards and extension of planting are general.

The Horticultural Commission of Yolo county reports the prevalence of much pear blight, but that it is being reduced by systematic work on the part of most orchardists.

S. C. Mason of the Department of Agriculture of Washington is in Fresno making observations in the fig orchard of Geo. C. Roeding. His object is to get information as to the Capri fig.

The question of box shook which has been perplexing to all orange growers is being discussed by Tulare county citrus men in hopes of securing better terms another year.

Santa Paula is installing a number of improved irrigation plants which are the means of saving great quantities of water and also facilitate its more economical handling.

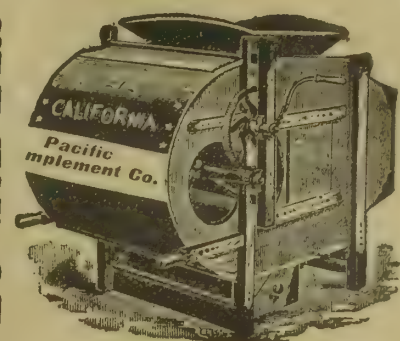
Sutter county is making peach contracts with the canning companies on a \$60 to \$70 basis.

Peach drying season is now on in all sections of Southern California.

Riverside citrus output now aggregates something above 5500 cars.

Eighteen cars of California green fruits pass Sacramento daily.

El Centro creamery is improving its plant.

Fanning Mills**"The California"**

This is one of the most powerful and complete cleaners in the market, and is known as a double blast fan mill. The first blast operates as the grain passes in showers through the sieves, and in this operation the chaff and light stuff is removed. The second blast operates as the grain passes off the last screen in a thin stream and at this time the heavier particles are removed. These mills are rigged to clean beans.

We are also agents for the

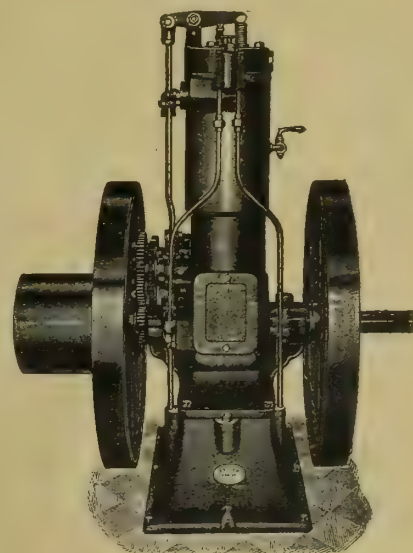
Western Fanning Mill

This machine is not only a cleaner but likewise a perfect separator and in this respect will accomplish what no other machine on the market will do. Separates wheat, oats and rye, clover and timothy and makes them marketable in their class. Separates cheat and cockle from wheat. Separates wild oats from wheat, barley and large tame oat. Separates barley from wheat, and rye from wheat. Equipment is five screens and sieves, one-wheat zinc hurdle, a chess-board, tail-board and spout suitable for all requirements of a farmer. Will clean alfalfa seed perfectly. Will clean and grade beans. Alfalfa and bean screens are extra.

Pacific Implement Co.

133-153 Kansas St., San Francisco, Cal.

When writing advertisers, mention Cultivator

The "Stover" for Simplicity

2, 3 and 5 H. P. Vertical
 5 to 60 H. P. Horizontal

LIVINGSTON & LEE

953 NO. MAIN ST., LOS ANGELES, CAL.

The Auto-Fedan Manufactured by

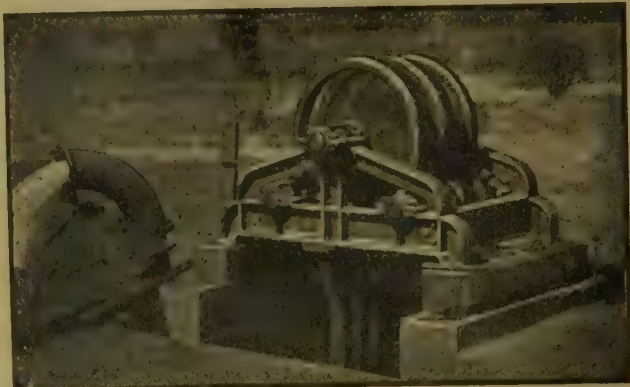
THE AUTO-FEDAN HAY PRESS CO.
 No. 28 Jefferson Street Topeka, Kansas



The only successful self-feed two-horse-power press made. Makes three strokes to the round. Feeder is attached direct to power, so it is bound to operate. Two men can run it. It is perfectly safe. Has a record for baling over three tons in one hour. Satisfaction guaranteed.
 John Schilling, Agent, Garvanza, Cal.

When writing advertisers, mention Cultivator

Addison Double Plunger Pump Head



It will pay you to investigate the Addison before purchasing a pump. Send for Catalogue B.

Addison Pump Company

Phones: Home 91; Sunset, Black 1551

Cor. 1st and Cypress Sts., Pomona, Cal.

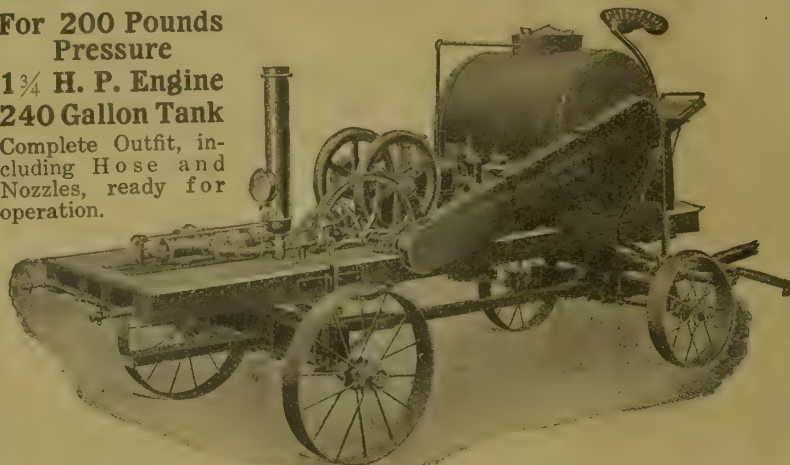
Smith's Portable Power Sprayer

For 200 Pounds Pressure

1 1/4 H. P. Engine

240 Gallon Tank

Complete Outfit, including Hose and Nozzles, ready for operation.



Powerful, well built, durable and efficient. Write for special circular and prices.

Large Variety of Hand Sprayers in Stock

S. J. Smith Machinery Co. Power and Pumping Plants
212-214 So. Los Angeles St., Los Angeles, Cal.

STEARNS

GASOLINE
OR
DISTILLATE

ENGINE

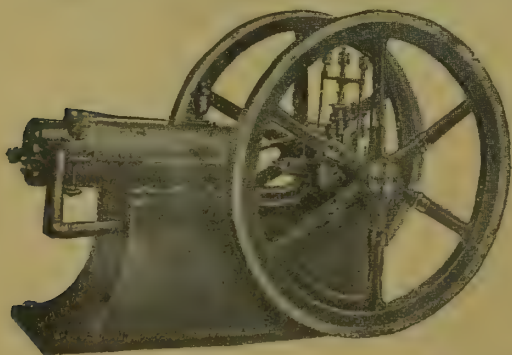
Has many points superior to any other engine.

Hundreds In Use
Every One Satisfactory

Built for California cheap fuel.
For further information, write

STEARNS GAS ENGINE WORKS

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Don't Experiment

With untried engines. Buy an engine with a guarantee of the lowest cost for fuel—the

White & Middleton

Absolutely reliable, tested and proved.

Wm. Gregory

602 No. Main St., Los Angeles, Cal.

National Wood Pipe Company

Woodward Pat. Machine Banded Pipe, Wheeler Pat. Continuous Stave Pipe, Bored Wood Water Pipe

Made from California Redwood **WOOD PIPE** Or Selected Puget Sound Yellow Pine

Puget Sound Office: Olympia, Washington

San Francisco Office: 268 Market St.

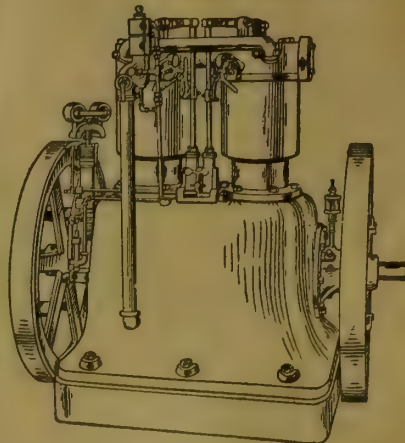
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A Booklet, "The Whole Story About Wood Pipe," mailed free upon request.

PEERLESS ENGINES

DISTILLATE AND GASOLINE



SINGLE AND DOUBLE CYLINDER.

STATIONERY AND PORTABLE

For all kinds of Ranch service and special for electric lighting.

CATALOGUE W.

1 1/2 H. P. to 50 H. P.

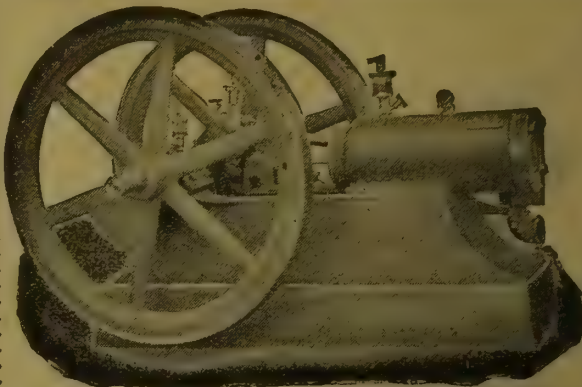
BAKER & HAMILTON

San Francisco

Los Angeles

Sacramento

Samson Gasoline and Distillate Engines



Are Strong and Durable

Fully Guaranteed in every particular

We make complete Irrigation Outfits

Samson Centrifugal Pumps

Are the Best.

Enlargement of our factory makes it possible for us to make prompt delivery.

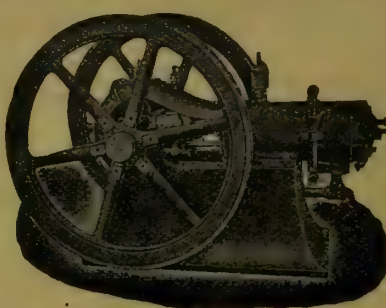
Send for our new catalogue and estimates.

Samson Iron Works

Office and Factory, 1140 to 1198 Aurora St., Stockton, Cal.

Branch: 920 J St., Fresno

553 S. Los Angeles St. Los Angeles



The Callahan Oil Engines

The Highest Grade Made. Won First Prizes at Sacramento and Porterville Fairs. Large stock on hand. Send for Pump and Engine Catalogue.

G. W. Price Pump Co.

21-31 Jessie St., San Francisco

Branches—Sacramento, Visalia, Porterville

This Gun Has a Record of One Hundred and Fifty Gophers Without a Miss



Concussion
Can't
Miss

Patented April 21, 1906

"SURE POP"
CONCUSSION GUN

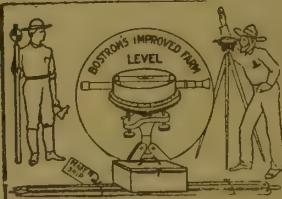
Price \$1.00 Post Paid
6 for \$5.00, 12 for \$9.00
Express Prepaid

Weight, 10 ounces. Length, 7 inches. Made of brass and will not rust. Shoots 38 Central Fire Blank Pistol Cartridges. Simple construction and a rapid exterminator of Gophers, Moles and Small Animals. Send for circular. a sample today.

John D. Keller, Manufacturer

327-347 W. Santa Clara St.

San Jose, Cal.



BOSTROM'S IMPROVED FARM LEVEL

Used for irrigation and drainage work. Cheapest and best level yet invented for farm use. Has the most patented improvements in simplicity and usefulness. Can be operated by any one. Price including scope tripod and target rod \$12.50.

PALACE HARDWARE COMPANY.
Golden Gate Avenue, San Francisco
Coast Agents.

Send for Circular.

500,000 FEET OF WATER PIPE

All sizes, Galvanized and Black, slightly damaged.

Special Price While It Lasts. Phone or write.

ADAMS PIPE CO., 603 Grant Bldg., Los Angeles, Cal. Phones: Main 1917, Home 1917

When writing advertisers, mention Cultivator.

California Cultivator

Los Angeles

August 1, 1907

San Francisco

An Irrigation Canal, Alberta, Canada



THE production of crops through the artificial application of water by the method of irrigation is more ancient than our earliest historical records, and was, we now know, depended upon to produce the grain that made ancient Egypt at one time the world's granary.

On this continent, although Mexico and Arizona contain remains of irrigation canals and ditches constructed by a people prehistoric, the attempt to reclaim large areas for the homeseeker by large irrigation undertakings is of comparatively recent date.

Corporate and private enterprises in the United States have expended millions of dollars in introducing this certain method of crop production in the arid and semi-arid West, and now the Federal Government, under the authority of the "Reclamation Act," is undertaking the construction of irrigation works, the cost of which will ultimately reach some \$30,000,000.

Coincident with these developments along irrigation lines in the United States, farming by irrigation has been gradually introduced into Southern Alberta. Alberta is one of the new provinces of Western Canada and is bounded on the west by British Columbia, on the east by the province of Saskatchewan, and on the south by the State of Montana.

Alberta has already acquired fame both as a ranching and farming country. This fame has been gained largely without the aid of irrigation. But portions of South Alberta are capable of irrigation. The water is at hand, and the topography of the land is such that the water can be distributed at a comparatively small cost per acre. Furthermore, the soil and climate are admirably adapted to irrigation. These facts have all been thoroughly demonstrated, both by

the most critical examination made by the best experts on irrigation and by experiment; and, appreciating these facts, the Canadian Pacific Railway Company has undertaken the construction of an irrigation proposition which in point of acreage included is probably the largest undertaking of its kind in the world's history.

The tract included in this irrigation project is today one of the great ranching districts of Alberta. A luxuriant growth of natural grass with wonderful qualities of nutrition covers this entire stretch of country. It is the farthest removed from sand and sage brush, which are the natural conditions of land brought under irrigation.

On this great tract are cattle, horse and sheep ranchers, all of which thrive the year round without grain or shelter. Here are also occasional farmers who this year have raised wheat yielding as high as fifty bushels to the acre, and oats yielding 100 bushels, without irrigation. When these canals and laterals are all completed there will be about one-half of this tract that is still, and will remain forever non-irrigated. Here, then, are farms part of which are irrigated and part non-irrigated. The non-irrigated land is ideal grazing land, and in years of average rainfall is first-class farming land.

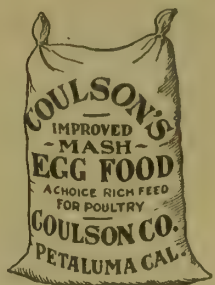
The above is from a description by Elwood Mead, which gives much information regarding the great section of irrigable land in that rich northland. The lands are being subdivided and disposed of by the Canadian Pacific Irrigation and Colonization Company at Calgary, Alberta, Canada.

From the above engraving one may gain a faint idea of the great abundance of the water supply and the magnitude of the undertaking to place these rich lands within reach of farmers.

Coulson's Improved Mash Egg Food

Takes Less Feed

Makes More Eggs



IF YOU WANT PLENTY OF EGGS THIS FALL AND WINTER when prices are high, you must lay your plans now. The hens must be given a strong feed which will enable them to get through the molt without loss of condition, and they will then quickly commence laying again.

First, see that your hens are healthy when they start to molt. At this time of the year, after a heavy laying season, they are apt not to be at their best, and a little of *Coulson's No. 3 Condition Powder* will put new life into them, and enable them to thoroughly digest and use the good food which they specially need.

At the same time, they must have the best food you can give them from the commencement of the molt. You will find *Coulson's Improved Mash Egg Food* is just what is required. It is strong in protein, due to the blood, meat, bone and oil cake meals which it contains.

Put Up in 90-lb. Sacks Directions in Each Sack

Your hens will not need to eat so much of the concentrated food to obtain the egg-making and feather-producing materials they need, thus saving their digestive organs and your pocket at the same time.

Coulson's Improved Mash Egg Food is therefore beneficial in two ways. Less feed is required and the hen gets just what she needs, with the result of a quicker molt and more eggs.

First cost is not everything, but even in this respect, **COULSON'S IMPROVED MASH EGG FOOD** shows to advantage. A 90-lb. sack will make a meal for 1250 hens. This is just over 2 lbs. a hen a month. Think how many eggs does it take to pay for this feed? In November, only 1 egg, and not more than 2 on the average.

We know what this feed will do by results on our own poultry ranch, as well as from testimonials from pleased customers all over California. What it does for others, it will do for you.

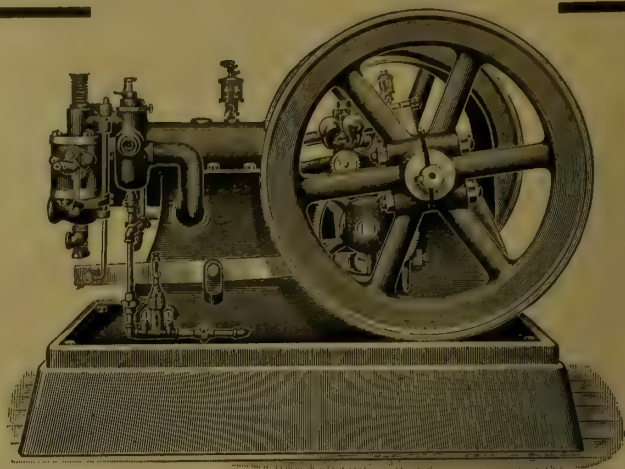
Give a trial order to your dealer; if he does not keep it, write to us, and we will either advise you where you can get it locally, or supply you direct.

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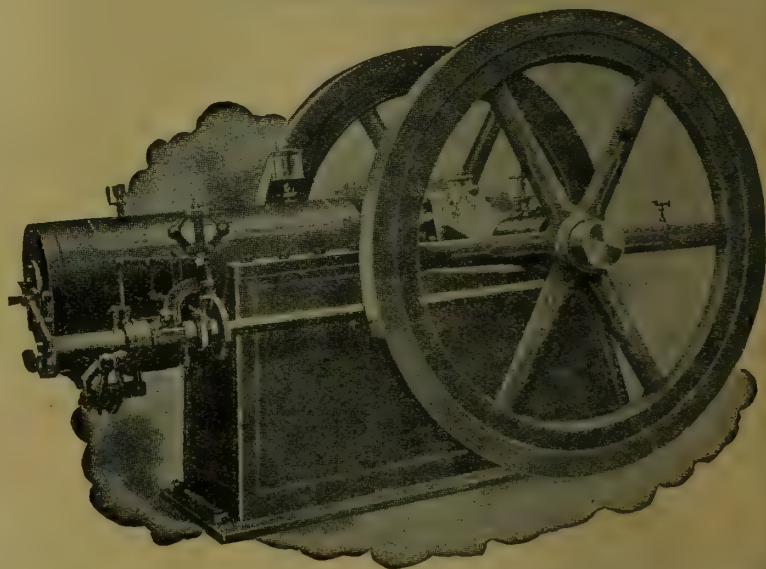
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Columbus Machine Co., Columbus, Ohio

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2 to 60 Horse Power



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Los Angeles, Cal., July 8, 1907.

To Whom it May Concern:

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To the man who wants plenty of water, little trouble and economical engine, and one that develops the full horse power, we can cheerfully recommend the Columbus Engine.

We have had experience with high speed so-called big horse power engines, and know whereof we speak when we recommend the Columbus Engine to the public, knowing that it is a kind you can depend upon, free from all trappy devices, simple to operate and economical.

The writer has run a 10-horse Columbus Engine at Tropic, for the past four years, and can vouch personally for the above statement.

Trusting that this information will be a benefit to those interested, we beg to remain,

Yours very truly,
THE ANAHEIM PRODUCE CO.,
By E. B. Barry, Manager.

Greenleaf-Compton Co.

121 South Los Angeles St.

Los Angeles Cal.

California Cultivator

Vol. XXIX—No 5

Los Angeles, California, Thursday, August 1, 1907

Subscription \$1 a Year

The Modern Milking Machine

A Description and Photographs by the Associate Editor
on the Process of Extracting Lacteal Fluid by
Machinery at the Rabb Dairy Near Los Angeles

I recently saw an amusing account of the experience of a prominent Los Angeles grocer, who, for the sake of amusement and little profit, is conducting a dairy where some exceptionally fine blooded cows are maintained. One of the embarrassments of this establishment has been the securing of competent milkers, and this embarrassment has prevailed not only on the ranch but on many others through the length

ances put into actual operation. The Rabb people begin their afternoon milking at about three o'clock, soon after which time our party arrived at the stables and found the milkers with part of the cows and the foot power milking machine diligently working on the remainder.

The milking machine was in the hands of Mr. John Houston, the foreman of the ranch. It was, of course, the first feature of the dairy to which

first pair of cows. Learning our errand, and that one of the first features of the trip was, to be a photograph of this machine in operation, he promptly liberated the first two cows from the stanchions which were in such a position that no photograph could be taken of them. They were taken to the corrals and there under the conditions different from those in which they were usually milked, they stood perfectly quiet while the milking was being done. This explanation accounts, however, for the appearance in the photograph of one extra helper who stands at the side of one of the cows to prevent its stepping over. This helper is never necessary when the cows are milked in their regular places in the stanchions.

The first photograph with Mr. Houston carrying the machine shows how perfectly portable it is and how quickly it may be taken from one place to another. With milk pail in one hand and machine in the other Mr. Houston steps from one pair of cows to the next as rapidly as if he carried only the milk pail.

The machine is placed between the two cows to be milked, and the milking was preceded by a light brushing of the dirt from the udder, though we could hardly see the necessity of this for no dirt can follow the milk under this method of milking. The next step was to take the four receivers which are hard rubber appliances, looking very much like a telephone receiver excepting that where the receiver is, is a soft rubber disk with opening to admit the teat.

With two or three strokes of the foot on the pedal, suction was produced so that the moment the tip of the teat touched the receiver it was drawn into place up against the udder. Then another, then the next and finally the last receiver is placed and cow number one is being milked much quicker than it has taken to tell it in these few words. Instantly Mr. Houston turned to the other cow with the other rubber hose to which was attached similar four receivers which were quickly applied; in the mean time keeping up the motions with his feet so that in a few seconds both cows were being milked. In two and one-half to three minutes the work was completed, the receivers removed, which can be done as soon as the suction is lessened, and machine and milk pail picked up and the same repeated on the next pair of cows.

There was no manifestation of restlessness on the part of these cows and the work passed off so almost noiselessly, and to the evident satisfaction of cow and milker that one cannot refrain from

Concluded on Page 115



Ready for Milking

Applying the Receivers

and breadth of California. To overcome this obstacle this particular dairyman invested in one of the latest milking machines, and to be sure it was given a fair test at its initiation went with it on its trial trip. All seemed to be in the right condition for a perfect trial of the new appliance until the instrument was placed between two cows who were not advanced in civilized methods to fully appreciate the advantages of the new fangled appliance. Nothing daunted Mr. Amateur Dairyman proceeded to get into the thick of the endeavor and was very materially assisting in his efforts to "soo boss" until, nagged by the strangeness of the appliance, the cow upset all calculations, the milk pail, the grocery man, and even the new fangled machine, nor did she stop with the upsetting of the machine, but continued switching around until it resembled a junk pile.

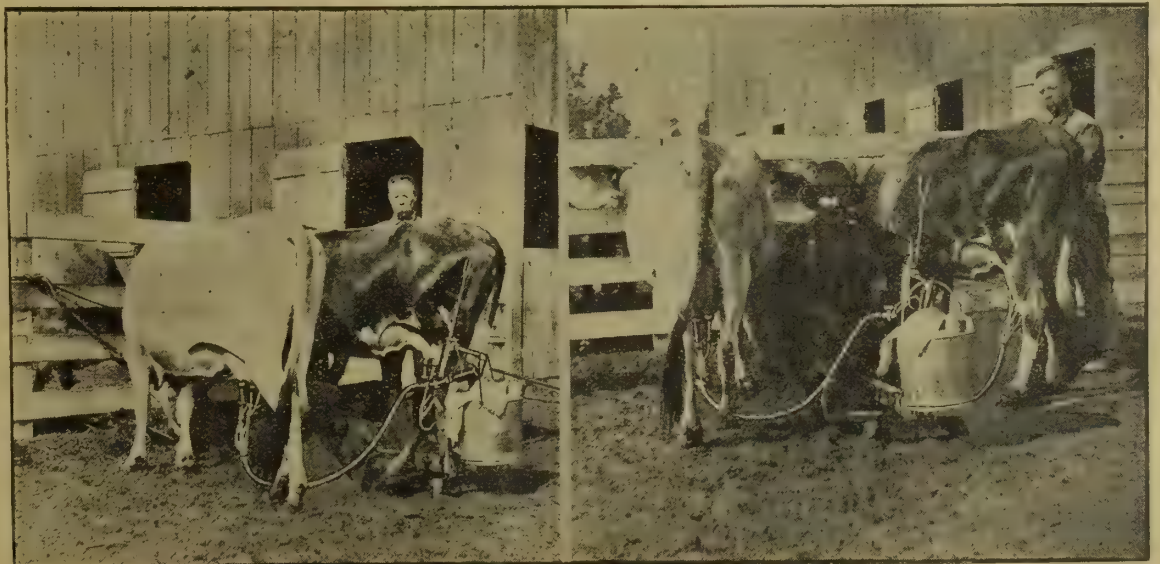
Not to be discouraged with this experience, the dairyman proved to be a stayer and after proper repairs had been made on the machine, it was again introduced to those self-same cows and today the machine and the cows are the best friends.

This incident created interest on the part of the rider to the end that when an invitation came from Mr. O. J. Weber, of the O. J. Weber Co., to accompany him in his automobile to the ranch of the Rabb Dairy Co. beyond Savannah on the old Monte Road, fifteen miles out of Los Angeles, he accepted with alacrity.

Many papers over the State have continually referred to various dairies being compelled to buy these machines because of the labor shortage, and almost invariably the comment made upon them has been such as to indicate their complete success. It was, therefore, a pleasure to make this ride and see one of these simple appli-

we looked, but at the same time it must be confessed the perfect cleanliness and sanitary condition prevailing in the stables was one thing which stood out and compelled us to take notice. The floors and gutter were almost as clean as the housewife's kitchen floor and lime and disinfectants scattered added to the appearance of cleanliness. This was not because of the expected visit of our party, for no notification had been sent that we were to arrive on this particular afternoon.

Pardon this digression for this is not written to call attention to the sanitary condition of dairies, but to speak of our experience with the milking machine which was at the time of our arrival in the hands of Mr. Houston ready for his



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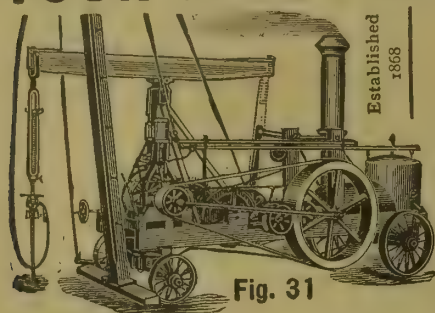
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Deciduous Fruit Culture

PRUNING APPLE TREES.

WHILE the same general rules governing the pruning of apple trees apply to all sections, there are certain differences to be observed in different localities. For instance, pruning an apple tree to an open center in the vicinity of the coast is proper and safe; such work in the warmer interior valleys would result in many sunburnt branches and a short-lived tree. Trees in localities exposed to severe winds might be pruned lower than otherwise. However, the low-pruned tree is a favorite in California. It saves expense in picking the crop and the low-spreading branches protect the trunk from the sun. There is a limit to the low pruning of the apple that does not apply to some other deciduous fruit trees.

If the pruner is able to see the tree in his mind just as it ought to be when it is grown up to bearing size, he will save much time in making his orchard profitable. If, at the time his trees come into bearing he finds it necessary to remove branches that should have been removed a year or two before, there is a loss in bearing surface that very well might have been profitably distributed through a well-shaped tree.

Prune While Young.

Trees which are not pruned when young, will bear more fruit during the early stage of their growth; but when they mature they will lose when they should be making the most profits. The apple does not begin to bear till it has three-year-old wood and if it is allowed to grow a lot of wood that has to be cut off at that age or soon after, it is a serious loss.

Too Many Branches.

It is quite common to see apple trees with half a dozen or more branches. Some of these have to be cut out early in their bearing period. No apple tree can carry so many main branches and remain a good tree.

Most varieties of apple trees grow to large sizes and cannot be headed as low as most deciduous fruit trees. The apple has a spreading habit and cannot be properly cultivated if allowed to branch out and spread near to the ground.

Where to Head.

The best growers favor a head started two and one-half to three feet high. Cut so the top head will point toward the direction from which the prevailing wind blows. Do not allow more than three main branches to grow. If a branch fails to bring out a bud which is desirable to be utilized, cut a notch above it. Do not allow any branches to form lower than twelve inches from the ground. Aim to have the branches so distributed that they will be as far apart as possible and prevent crowding at a latter period. The branches should be cut back about half or third at the beginning of the second year. This is to give stockiness and bearing surface to the tree. If the tree is of a spreading habit, cut to an inside bud. If it is of a compact growth like the Northern Spy, cut to an outside bud. This will give a more evenly balanced top. It may be desirable to fill up an open space in which case cut to a bud pointing in that direction.

The Second Pruning.

The second pruning after planting should consist of culling to two branches on each main branch and cut back about half of the growth. This should be continued till the tree comes into bearing which will be in about four years from the time of planting.

Should trees be allowed to bear heavy crops they should be propped to prevent their getting out of shape. If the trees are once brought down out of shape by a fruit crop, they are down for good, unless brought back by pruning and this is expensive. It takes time to grow more bearing wood and not till then is it possible to raise a full crop.

These rules for handling young apple trees are not of the eastern apple grower, but are endorsed by the leading apple growers of this State.

KILLING SLUGS.

The so-called slugs that skeletonize the leaves of the cherry, plum, pear and rose bushes during the summer are comparatively easy to destroy.

As the slugs devour the surface tissue of the leaves in each case, they may be killed by a thorough application of any of the arsenical poisons such as paris green, london purple or arsenate of lead. Upon low plants it is equally as well to mix the poisons in twenty times their own weight of common flour and then dust them upon the plants through cheesecloth sack held in the hand.

In the case of the fruits, especially cherries, where it is not safe to use the above poisons, white hellebore powder may be used instead. If applied as a spray, put three ounces of the powder in one gallon of water as a dust, it may be used without dilution in a cheesecloth sack and light application made. The best time to apply the hellebore is toward evening.

The slugs can be removed from cherry, pear and plum trees by thoroughly sifting fine road dust, or freshly slacked lime over the foliage in the middle of a warm day, when the slugs are upon the upper side of the leaves.

Begin in time, be thorough, and do not let the slugs destroy your trees or roses.

AMERICAN APPLE GROWER CONGRESS.

The annual meeting of the American Apple Growers' Congress will be held in St. Louis, August 13-14. The executive committee of the organization is composed of: President, Henry J. Dunlap, of Savoy Ill.; secretary, T. Wilson, of Hannibal, Mo.; Geo. T. Tappin, of Nichols, Mo.; W. R. Wilkinson, of the Wilkinson Commission Co., St. Louis; J. W. Slanton, of Richville, Ill.; C. H. Williamson, of Quincy, Ill.; Clark Allis, of Medina, N. Y.; U. Cox, of Rockwood, O.; R. A. Simpson, of Vincennes, Ind., and L. A. Goodman, of Kansas City, Mo.

OFFICERS OF P. C. NURSERYMEN ASSOCIATION.

The annual election of the Pacific Coast Association of Nurserymen was held, recently at Salem, Ore., and officers for the coming year are: President, W. D. Ingalls, of North Yakima; secretary and treasurer, C. A. Tompkins, of Tacoma; vice-presidents, British Columbia, M. J. Henry, of Vancouver, B. C.; Oregon, A. Holodak, of Scappoose; California, William Nelson, of Fowler; Idaho, O. F. Smith, of Blackfoot; Utah, P. A. Dix, of Roy. The next meeting will be held at North Yakima, Washington next year.

If pecan nuts are soaked over night in water and then cracked on the end the nuts will come out whole.

Irrigation and Forestry

TRABUCCO CANYON NATIONAL FOREST.

S. Chapman, chief of office of organization of the Forest Service, writes Forestry and Irrigation, regarding the Trabucco Cañon National Forest:

"The forest is situated over the low rolling hills of the Santa Ana Mountains which lie south of the Los Angeles Valley in Southern California. The valley in which the towns of Riverside and Corona are situated adjoin the eastern boundary, and on the western boundary the hills slope down to the Santa Ana Valley. No towns or settlements of any size are situated within the forest. A paying tin mine is being worked on the west slope of the forest, and oil deposits are being developed in the Santa Ana hills, adjacent to the boundary, and it is probable that oil deposits will be found in the forest.

Game Grazing.

"The chief value of the forest is for the purpose of grazing. Excellent feed exists in the hills throughout the winter and early spring months during the winter rains. The feed dries up and the hills become barren during the summer months. There is very little agricultural land, but on the lower slope of the hills along the boundaries small areas of land in the stream beds are cultivated.

More Important.

"The forest serves its most important purpose as a conservator of moisture, and agricultural interests in the adjoining valleys are to some extent dependent upon the flow of streams originating in the hills. These streams flow only during a limited portion of the year, after the month of April very little water flows off in the bed of the streams. Considerable seepage continues under the ground along the stream channels, and this often is tapped by artesian wells. The value of the forest would be immeasurably greater if there were better cover over the hills. There is practically no merchantable timber in the forest. A few pulper pine trees occur along the west of the main ridge of the hills extending north and south, and along the stream courses which head back among the hills a scattering strand of live oak, cottonwood, alder, sycamore, and California walnut occur. Over the rest of the hills the cover is scanty growth of low chaparral of any species of shrubs native to Southern California.

"One of the most attractive features is the Trabucco Cañon, a narrow cañon, better timbered than most of the cañons penetrating the forest. In this cañon there is a luxuriant growth of native California palm, and the cañon presents an attractive appearance and is frequently visited by tourists.

"Considerable improvements have been undertaken by the Forest Service; roads have been improved and foot trails constructed up the cañons for the convenience of visitors, and so to connect points of interest. Several cabins and pastures have been built for headquarters for Forest rangers. A forest nursery is being established and planting will be undertaken with eucalyptus and other trees upon bare and chaparral grown areas in order to improve the cover and make the forest a better conservator of moisture.

Fire Patrol.

"The forest is protected from fire by

ranger patrol throughout the season of fire danger each year. In this way the chaparral cover which, in the absence of a growth of timber, is an important factor in retaining moisture, is prevented from being denuded from portions of slopes of the hills by grass fires which might run into the forest from unprotected private lands adjoining it."

THE KANSAS-COLORADO LAW-SUIT.

In a review of the famous Kansas-Colorado law suit, Forestry and Irrigation says:

This dispute between two States might have produced war in former generations, but our States instead of fighting, appeal to the interstate arbitration tribunal at Washington—the Supreme Court. The Arkansas River rises in Colorado and traverses the treeless plains, furnishing water for irrigation in both States; but the Kansas irrigators claimed that the amount of water withdrawn before it reached the Kansas line was so great there was not enough left for them, and they invoked the legal principle that all the dwellers along a stream have an equal interest in the whole stream, and hence asked for an injunction against withdrawal of the water by Colorado irrigators.

The Supreme Court, however, upheld the right of every State to allow and govern the use of water for irrigation, and to set aside the old common-law rule above mentioned, so far as it would apply to irrigation. The court further held that the United States has no authority to regulate irrigation, but that this is a State mat-

ter strictly. It held that if Kansas were actually injured in sufficient degree by the Colorado irrigation practice, then Kansas might bring suit for relief; but that as things are now the benefit from irrigation in Colorado is greater than the loss from low water in Kansas, and Kansas can not complain on general principles of irrigation being carried on, because it has made laws itself to encourage this practice.

Hundreds of witnesses were examined in the trial. Not only the authorities of the two States, but many private corporations were eager to be heard, and representatives from the United States were at hand to protect Federal interests. It is fortunate that the outcome of the trial favors the continuance of irrigation. If the settlers along the waters of an interstate river could not use its waters under the laws of their own State, for fear of trespassing on the rights of States further down, little irrigation could be done, for most of the rivers flow across two or more States.

ACTUAL SETTLERS GIVEN THE ADVANTAGE.

It is now the settled policy of the Government, when land is being released from withdrawal, to open it first to settlement; and then open it to entry (that is, to the filing of claims in the land office) only after a period of from ten to thirty days. The purpose of this is to give an advantage to the bona fide settler. The man who is on the ground first, and actually living there, is given preference under the law over any one who comes afterwards, and who might try to take up land for timber or mineral purposes under color of homestead entries. It is well known that this is often done; hitherto it has been diffi-

cult to prevent. The present policy will render enforcement of the law more easy.—Forestry and Irrigation.

A writer, connected with the Geological Survey, makes a strong plea for the establishment of a Federal drainage service for reclaiming the swamp lands on a basis similar to that of the Reclamation Service for irrigating arid lands. After briefly sketching what has already been accomplished in several States, he shows with the aid of a map and diagram where the sixty millions of acres of swamp are located, and estimates that if properly drained they would furnish homes for six millions of people and crops worth seven hundred and fifty million dollars.

Do not cultivate the beans when the leaves are covered with dew or are moist from a rain. Old growers say that if cultivated then, they will develop a great deal of rust. The writer has noticed this to be a fact. We can not explain it unless there is danger of inflicting slight wounds when the leaves and stems are tender because of the presence of moisture and through these wounds the germs causing the disease enter the plant.

The Auto-Fedan Manufactured by
THE AUTO-FEDAN HAY PRESS CO.
No. 28 Jefferson Street Topeka, Kansas



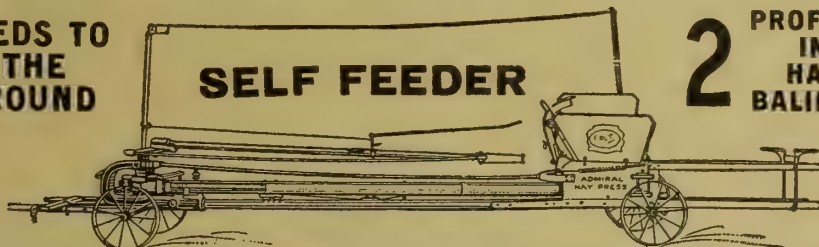
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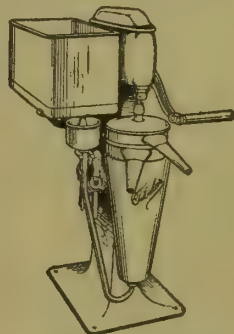
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Live Stock and Dairy**MORE SILOS.**

THE stave silo is more frequently
built than the other forms, where
fifteen to twenty cows are kept
it is the cheapest form. In districts
where dairymen lease their lands and
cattle for a term of years as is a com-
mon custom in California. The stave
silo offers the advantage of being
easily and cheaply taken down and
set up again in a new place. In many
of the Coast counties this renting of
land and cattle is the usual practice,
rather than the ownership. The wonder-
fully fertile lands of Marin and other
counties has been since the occupa-
tion of California in the hands of large
land holders. The outside world
knows nothing of the wonderful
beauty and richness of these Coast
counties, as the tourist never goes
there. I often wonder at the agri-
cultural possibilities of this State,
the hundreds of farmers living and
making wealth out of the soil that no
one ever hears of in the slightest de-
gree.

Early Stave Silos.

The first form of stave silo was
distinctly bad, worthless in fact. It
was a crude affair made of two by
four studding placed in a circle and
drawn up tight with an iron hoop.
The silage had to be removed from
the top and this was hard work and
alone should have served to condemn
them. Then they collapsed easily, or
swelling at the bottom sunk the ad-
justing bolts deeply into the wood
making it impossible to tighten them
up. The staves naturally gave in
every direction and when the silo was
empty and the wood dried out, some
of the staves buckled in and some
buckled out leaving air spaces be-
tween them. This was wasteful of si-
lage and also tended to make the
dairy farm look run down at the heel.
While it may be beginning at the
wrong end, yet a neat appearance on
the outside will help to make good
the promise underneath. It is said,
let a clean person constantly use a
dirty entrance and in time it will grow
clean from the influence of their ap-
pearance.

Modern Stave Silos.

The present day silos have the
edges of the staves beveled, tongued
and grooved; they are carefully
matched top, bottom and on all the
edges. The lumber is carefully se-
lected as the staves of a water tank.
The straight grained wood, without
knots, will exclude air better than the
cross grained cuts. The lumber used
is usually sixteen-foot lengths, where
it is desired to increase the depth,
the ends of the staves are sawed into
across the long way and a piece of
flat iron is inserted into the cut; this
makes it all air tight and anchors the
ends firmly together.

Foundation.

A flat cement floor is usually built,
the inside and outside is usually car-
ried up two or three inches higher.
This center ring is level and is about
four inches wider than the end of the
silo staves; this is to allow for expan-
sion and yet hold the building firmly
to its place of the foundation. The
hoops are made of round iron five-
eighths of an inch in diameter. The
rods are more convenient in sixteen-
foot lengths. The ends are provided

See us for Sanitary Milk Bottles...O. J.
Weber Co., 555-557 S. Los Angeles street,
Los Angeles.

with a long thread. The rods are
bent around the silo joining with iron
lugs and the nuts screwed up, at least
six inches being left on the end of
each rod to be let out when the silo
swells under the dampness of the
contents.

Doors.

The doors in a stave silo are read-
ily made by cutting them out between
the hoops, slanting the saw so as to
make the inner cut larger than the
outer. Then the silage will make
them bind tighter. A lot of mortar
laid on the sill edge, or even adobe
mud, plastered on them, thickly and
then shutting the doors will seal it up
tight. Another, and I think a better
way to put in the door, is to bolt a
frame around the opening for the door
to close on; this frame is made of
two-inch stuff and the edges of the
door are made tight all around with
any of the well-known roofing papers.

These two forms of doors with the
hoops running around continuously
are to be preferred to putting up a
wooden frame for the doors, held by
iron rods across it every twenty inches
and letting the iron hoops of the
silo come into through the uprights
and end on each side of it, with a
nut. This stiff frame has a tendency
to put out of level the silo when
empty and is best avoided.

Cost.

Oh, the power of money! What
will it cost? That is ever the cry!
When I look at glorious Mars these
nights I am glad that money cannot
buy the stars. At least, the sun, moon
and stars are safe for a while yet.
The first cost of the stave silo is less
by more than half that of the more
substantially built one. The ordinary
careless builder cannot make a success
of them. I personally would not like
to build one, but would go to the
makers of patent ones for prices and
have the material shipped in the
knock down. I believe like making of
tanks, that this is a special industry,
like barrel and puncheons. The pa-

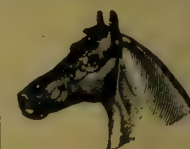
tent silos are many, from all parts of
the East to the Pacific Coast, the mills
advertise them; I therefore, refer you
for this part of the story to the Cult-
vator advertising columns.

Roof.

The roof of the stave silo presents
considerable difficulties, when the silo
is placed outside the barn. If the roof
is firmly fastened it will be wrecked
by the expansion and contraction of
the silo walls. It is probably not
wise to leave the building completely
unroofed as then the sunshine into

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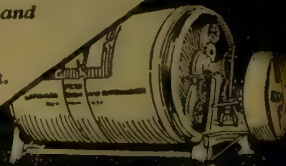
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the emptied portion and the shrinkage of the staves is thereby greatly increased. Making a square roof and hanging a weight from each corner has been tried successfully. Now comes the idea of an octagon with up-turned corners and a weight on each side. The effect is quaintly Japanese and quite decorative.

Effects of This Form of Silo.

It has been asserted that the silage has less feeding value owing to atmospheric action and changes of temperature through the thin walls. While this has been said, as yet it has not been proven, for it has not been tested by the Experiment Stations. To gain a stave silo must have a careful owner, one that has his mind on his work. He must tighten up the hoops, for when the silo is empty the hoops are loosened and the heavy winds may rack the silo to pieces. Where oak blocks are used instead of iron to fasten the hoops into the staves, the hoops are often found to have drawn the nuts half way through the block; this makes it impossible to either loosen or tighten the hoops. Then again watch that the foundation is such that the silo will neither shrink or expand off of it. These are the defects mostly pointed out; they should be weighed against the advantages before deciding which style to build.

Advantages.

That many farmers prefer the stave silo shows that the defects are not serious ones. The cheapness of the stave silo has brought them into use on the farms where dairying is not the main business. In New Jersey

and Pennsylvania over eighty per cent are of the stave form. In Illinois and Wisconsin, where the dairy is the chief work of the farm, the brick, stone and concrete or large wooden silo is more extensively used.

The only other way cheaper than the stave form to make silage, is to make a pit in the ground and fill it with the cut food. This was really the primitive form and in the early writings of the tenth century these are probably what are alluded to, as the way the people around the Baltic had green winter fodder for horses and cattle. The first of all silage making was probably in the caves and was an accidental discovery. It is Milton that says:

"Th' invention all admir'd, and each how he
To be the inventor miss'd; so easy it seemed,
Once found, which yet unfound most would have thought
Impossible!"

THE TEETH OF A HORSE.

In a discussion of this subject a horse man writes:

Decaying teeth are not uncommon in horses. This condition is usually indicated by a fetid discharge from the nostrils or a fetid breath. In some cases, difficulty is experienced in locating the diseased tooth, but when the disease has advanced to that stage in which it can be located it must be extracted.

Wolf teeth (those small, supernumerary teeth, which appear in front of the first molars in the upper rows) are generally supposed to have an injurious effect upon the eyes. This is a mistaken idea. They seldom do any harm unless they are large and in such a position that they inter-

fere with mastication; but being supernumerary and having no function, they should be extracted. The somewhat common habit of knocking the crowns off should not be followed. They should be drawn with a pair of forceps. I repeat that sufficient attention is not given to horses' teeth, and that a dollar spent for having them dressed is usually a good investment, while a bungling job does more harm than good.

A SKIN GAME.

Nine farmers out of ten run their dairy herds on the lottery principle. It differs from the regular nickel-in-the-slot-lottery in that it deals with dollars instead of cents and that if the game is run long enough and on a large enough scale the chances are that the fellow who plays it will lose out. A farmer goes to the city and sees a young man drop a dime in a slot, turn a handle and get five cents in return. He calls the youngster a fool. Then he goes home and during the next year he shoves \$40 worth of good alfalfa and milling-trust bran into Old Brindle and gets \$30 in return. Of course, he does not call himself any names, because he keeps no count either of the feed Brindle eats or of the returns she gives. He can not be expected to blame himself with a loss that he knows nothing about. He knows that he paid off \$500 on the new forty and supposes that Brindle did her share. She certainly did so, but if she had not done it her owner would have been \$10 ahead. The moral rests in the fact that most men who operate dairies, do not know what it costs to produce a gallon of milk.

For practical cow milking machine see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles.

PASTEURIZE.

With the advent of hot weather the question of a wholesome milk supply is being agitated, especially in the large cities. Pasteurization is frequently recommended as a safeguard, while on the other hand, this process is often condemned. Dr. M. J. Rosenau, of the United States Public Health and Marine Hospital Service, has made an exhaustive study of the subject, and in his opinion the advantages of pasteurization so far outweighs the disadvantages that he unhesitatingly recommends compulsory pasteurization of all milk which does not come from tuberculin-tested cows and is not produced and handled under the best sanitary conditions. Of course, good milk does not need pasteurization, and clean raw milk is more to be desired than pasteurized unclean milk. But only a very small proportion of the milk on the market is fit to be used raw, and milk which would be dangerous in a raw condition may be rendered measurably safe by pasteurization. Pasteurization, therefore, may be regarded as a make shift to counteract unwholesome conditions, and it should be used only as a temporary measure while dairy herds are being freed from diseased animals and the dairies are being brought up to the required standard of equipment and cleanliness.

AMERICAN BREEDERS' ASSOCIATION.

The American Breeders' Association will hold its fourth annual meeting at Washington, D. C., January 28, 29 and 30, 1908. Secretary James Wilson, the president of the association, will speak and other able and prominent men are being secured to take part in the program.

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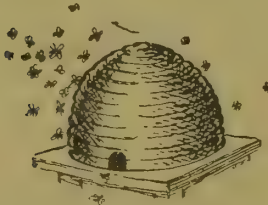
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The Ornamental Garden

THIS MONTH.

AUGUST is a good month for mulching, irrigating and looking after bulbs. Many may be taken up and put away in sand. Early planted gladiolus, which have blossomed and allowed to dry off may be taken up now. If they have been irrigated and are still green and growing, they may be dried off and as soon as well-hardened remove the bulbs and dry for early fall planting.

As to planting this is the best month in the year in which to sow hardy perennials. Most varieties if sown this month will flower the next year. Also sow Calceolaria, Cineraria, pansy and primula seeds. Continue growing Eucalyptus and Cypress seeds.

Don't water roses this or next month at all. Let them dry down. Be sure and get your pansy, stock and centaurea seed now. The latter should not be transplanted; does better to grow where sown. Sow sweet peas this month for flowering during holidays.

The old violet bed may well be overhauled and divided and annual vines that are hardy may be started now.

HOW TO MAKE LEAF MOLD.

Make your own leaf mold. When sod is removed from ground for any purpose, shake out the fine soil that adheres to it for future use; or slice off the fine roots with a sharp knife just below the crown of the grass. This is known as fibrous loam and, in combination with leaf mold, old manure and fine, sharp sand makes the very finest potting soil.

Throw the tops of the sods in a heap in some out-of-the-way corner and add the rakings of the yard in fall and spring, all weeds pulled during the summer, all vegetable refuse, potato parings, apple peelings, cornhusks and berry hulls—anything that has vegetable matter and will decay.

All dishwater and slops that are not needed on the garden may be thrown on the pile, which should be turned over occasionally during the winter. By the following spring you will have the finest kind of leaf mold. Not all of the pile will have decayed, but along the sides and underneath it will be found ready for use.

Add to it every bit of available vegetable matter during the year, including the annual flowers pulled up after their season of bloom, the tops of such root plants as cannas, caladiums, gladioli, etc., and you will soon have a supply quite adequate to the needs of an ordinary garden. Where there are waterworks the hose may be turned on frequently to hasten decomposition.

If it is impossible to replace all poor soil in the garden with better by the addition of leaf mold and manure, much may be accomplished in the way of building up the old and rendering it suitable.—Agricultural Journal.

• HYDRANGEA.

The hydrangea is in its full glory now and is really a thing of beauty. This shrub is so easy to grow it seems every one should have one. And this is a plant that would not be too common if every yard in the city had one. The larger pink flowers, in bunches often a foot across, attract the attention of every passer. They may be bought of a dealer for 15 or 25 cents each or if you have a good sand box you can soon root as many as you want. Cut off in about six to

eight-inch cuttings of new growth.

Take all the leaves off except one or two; put down so one or two joints are in the sand; cover well and keep moist. In three or four weeks roots will be formed all along the part covered. Now take them up and plant in good rich soil in small jars, or tin cans like a three-pound lard bucket. When they have got a good start turn the bucket upside down and jar the dirt and plant out so as not to disturb the roots.

Plant in good rich soil and keep well fertilized. They are rank growers and hearty feeders. Trim right after the blooming period, so the new shoots can form buds for the next season's blooms. If too high, and they have a tendency to fall, they should be tied up to the wall or to stakes driven near them for the purpose.

They do as well or even better in the shade or on the north side of the house, as they do in the sunshine. Get a "Hydrangea Paniculata Grandiflora" sure.

DEADLY COMMON PLANTS.

The things that give the most pleasure in life frequently can also cause the greatest pain, says a writer in Coleman's Rural. Among flowers, for instance, the beautiful snowdrop, the hyacinth, jonquil and narcissus are all poisonous, and to eat the smallest part of the root of either of them would produce fatal results, while the juices of the leaves will cause violent vomiting.

The berries of the yew tree have killed many people, and the opium obtained from poppies has also claimed its victims. Lady's slipper and lily of the valley are both dangerous, and if the blossoms of crocus are chewed they will cause vomiting. Flowers from bulbous roots, however, seem to be the most dangerous and it might not be out of place for dealers in these to label them with a crossbones and mark them poison.

THE ART OF ARRANGING FLOWERS.

Here are five golden rules which should be observed by those who often arrange flowers: Use plenty of foliage. Put your flowers in very lightly. Use artistic glasses. Do not use more than two, or at the most, three different kinds of flowers in one decoration. Arrange your colors to form a bold contrast, or, better still, a soft harmony. The aim of the decorator should be to show off the flowers—not the vases that contain them; therefore, the simpler ones are far preferable to even the most elaborate. Glasses for a dinner table should be either white, a delicate shade of green, brown or a rose color, according to the flowers arranged in them.

PROTECTION FOR FLOWER BEDS.

If you want your chickens to have the run of the orchard and lawn and also want to raise flowers, follow the suggestion of a correspondent in the Farmers' Tribune and cover your beds with woven wire fencing cut to the proper shape and size and fasten it down with forked sticks or something similar. It is neat and effective (preventing scratching while allowing weeding and all needful care) without being unsightly.

"He plays better than he sings."
"Oh, have you heard him play?"
"No, but I have heard him sing."



GOOD ENOUGH SULKY PLOW

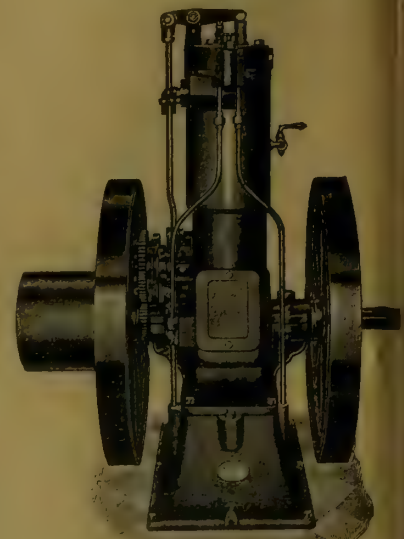
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August 1, 1907.

Bees and Their Care

AMONG THE BEES.

The successful apiarist must have a fund of knowledge peculiar to his craft for a colony of bees are a well regulated body, well officered and equipped for the transaction of business, and any untoward interference with their arrangements is generally to the detriment of the invader, says a writer in Coleman's Rural.

We have had several years' experience with this branch of farm industry; in fact, we have but a vague remembrance of the time we didn't "keep bees." We read with interest of the success of those who keep bees on improved methods, but our experience has been best when we have kept as nearly along the lines they follow in their natural behavior, says a writer in Prairie Farmer. We have prepared boxes, cleaned, salted and well rubbed with peach leaves, according to the methods handed down to our predecessors. And yet, after being hived, and apparently well satisfied with their new quarters, they have sped away for the trunk of a decayed tree the interior of which would be crumbling, sour and infested with wood-worms. Occasionally if the swarm was worth more than the tree we would fell the tree, split the hollow portion open, set the discarded box over the opening and the bees were ours "for keeps."

Some seasons the bulk of our swarms would take to the woods, and usually at such a rate of speed that it was impossible to locate them. In these seasons the bee hunter reaped a rich harvest. In more recent years, since the timber has been cut off, there are but few trees in which they can harbor. This following them to the woods and carefully noting their habits will furnish valuable information useful in the construction of their hives.

One point to be observed is that they select trees with irregular hollows wherein to store their honey, for a comb full of honey is apt to break from its own weight unless it is otherwise supported. Then in preparing a hive we find it necessary to place supports for the combs. We still use the oblong box set on end that, when filled with honey, will weigh thirty pounds. This allowance of honey is necessary and sufficient for the winter support of a colony of bees.

We use small boxes on top of these permanent hives for our share of the honey. This part we remove as soon as it is well capped so there is then no danger of the honey leaking from the comb. We have tried various patent devices for bees, but either failed in the manipulation of them or they did not suit the requirements of the bees as well as the old-time hive. Of course a professional apiarist, who could devote much time to the work, might find these devices superior to our methods, but for the average farmer who keeps a few bees as a side issue, the more simplified methods serve the purpose best.

When one can arrange to be among his hives a great deal they yield the best results possibly from the fact that he can detect anything amiss and correct the disadvantage before it proves too great a hindrance. Ants and mice are formidable enemies to the apiary, while a skunk, in one night may play havoc with a colony. There are bee-eating birds that will weaken the colonies. Sometimes, too, chickens acquire an appetite for bees, but this is of but rare occurrence.

SELLING THE HONEY.

The question is often asked, how it is best to sell honey. Naturally each beekeeper must decide this for himself and select the method best suited to his needs and location. A correspondent of the Progressive Beekeeper has this to say:

If the commission men sell your crop the money comes in a lump, in retailing it comes in smaller quantities. In selling to the consumer it is a good plan to give him a sample of the (extracted) honey that you have to sell; let him taste of it, and if all the whole family is present let them all have a taste. The children often will persuade papa or mamma to make a purchase. If you keep a horse or a cow, you can often make a sale by trading for oats, corn or hay; eggs are good trading commodity; even if you do not need them for family use you can trade them at the store for something needful for the family. You can often dispose of honey by thus trading, whereas they would not pay money. For feed for horse or cow you must pay cash; why not make the trade? Both are accommodated; you have got some feed and they the honey. When that is gone—"well we must get some more." Perhaps one or two of the children can help you sell your crop; you give them a good commission for selling and they will take great interest in bees, because they have made some money out of the transaction.

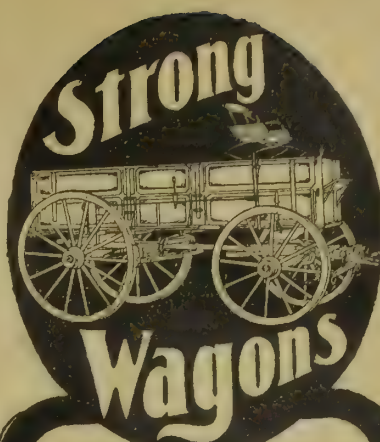
Children like to have a little money all their own as well as the older ones of the family. If you produce extracted honey and wish to put some into the stores, pound and half-pound bottles are neat packages. Jelly glasses are used by many. I dislike them on account of their leaking under the cover; honey smeared down the sides of the glass does not present a pleasing sight. If you go to the store to buy a box of berries you select a box that is neat and attractive; you do not care for a mussy box. Do the same by your honey, whether in comb or extracted; make it appetizing by neat appearance and quality; always produce honey "that tastes like more." You should not forget to advertise in your local papers something like this:

"Wanted, to Exchange—Honey for eggs, oats, corn or anything useful—yes, silver dimes."

FOUL BROOD.

Drugs can not be recommended for foul brood in bees. It has been claimed that placing medicines in the water or food for the bees, or fumigating with certain drugs, will correct the trouble. While the latter remedy has been attended with good results it can not be recommended by the most experienced bee keepers.

The first practical step in the treatment of this disease is to remove all the infected material from the hive. This may be done by shaking the bees into a new clean hive, care being taken, however, that none of the infected honey falls into the hive. This should be done at a time when there are no robber bees or when other bees in the apiary will not rob them and thus spread the disease. Great care should be exercised to keep all infected material away from other bees until the combs can be rendered into wax or destroyed.



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(INCORPORATED)
Chicago, U. S. A.

The Department of Agriculture advises that the wax rendered from infected combs should be done at a high heat and not by the solar wax extractor. The honey from a diseased colony should be diluted with water and then thoroughly sterilized by hard boiling for at least half an hour. This is especially necessary if it is to be fed back to the bees. If the hive is to be used again, it should be thoroughly cleaned with concentrated lye and then washed out with boiling water. Three or four of these washings should be made to remove all the lye. Some keepers sandpaper the interior when the hive has been dried after the fourth or fifth washing.

The following is advised by a practicing physician as a good remedy for bee stings: Tincture of iodine, one ounce; spirits of camphor, one ounce. Mix well and apply to the stings. If a salve is desired, mix equal parts of baking soda and vaseline and apply to the stings as soon as possible.

Housewife (to new domestic): "There is one thing I wish to say to you. The last girl had a habit of coming into the parlor and playing the piano occasionally. You never play the piano, do you?"

New Domestic: "Yes, mum, I plays; but I'll hev to charge yez half a crown a week aixtry if I'm to furnish music for the family."

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General Agriculture

DRY FARMING.

MORE and more the advantage of "dry farming" is being pressed upon the attention of farmers. Many sections of the semi-arid West are greatly increasing their wealth by more attention to the "little things," which is declared to be the cause of success in this feature of agriculture.

Regarding the methods, a circular from the New Mexico Experiment Station says: "The principles of dry farming are by no means new to agriculture. The fundamental principles involved are the same the world over. The differences appear only in the varying conditions of soil, water, climate, etc. For example, under dry farming conditions we cannot, as under irrigation, substitute water for cultivation, because in the case of the former there is no excess of water available.

All the operations of dry farming cluster around two important features, namely, the formation of a capacious water storage "reservoir," and the conservation of the soil moisture until the season of the year when the crop can make the best use of it. The soil must be loosened up by deep plowing so as to permit the rain to penetrate it—not a single drop being allowed to run away over the surface. After the water has soaked into the soil it must be prevented from returning to the surface, to be evaporated and lost. Should the soil be left rough after plowing, a large surface will be exposed to the air which will result in the loss of much soil moisture. Leveling the ground at once after plowing will result in the least amount of surface exposure to the desiccating power of the air and wind. Very much less moisture will be lost from a smooth surface than from a rough surface. Furthermore, pulverizing the surface retards the movement towards the surface of the moisture in the deep layers of the soil. Surface cultivation must be continued at frequent intervals, not only until the crop is planted, but also for sometime thereafter, even with the cereals. By deep plowing, and level thorough, timely cultivation we may hope to succeed; without them we surely will fail.

Dry farming requires strict attention to detail, and every operation must be performed at the proper time and in the right manner. Neglect is intolerable, and it makes not the least difference whatever, whether the neglect is a result of ignorance or of carelessness. There is only one road leading to success in dry farming and that is, to know the underlying principles governing tillage and unhesitatingly to practice methods, which, by repeated trials, have demonstrated their soundness." As to some of those details the Cultivator will give more at length later.

"I would rather have developed this place than to have built a cathedral." This was the tribute paid by Tree Warden J. H. Reed to the enterprise of the Chases in developing their great orchard property at Corona, on the occasion of his visit there this morning with a party of Riverside citizens. And this spontaneous expression from Mr. Reed was unanimously voted to be a most fitting statement of the feeling of admiration felt by every member of the party.—[Riverside Press.

DODDER.

The Cultivator often has inquiries regarding dodder and how to rid alfalfa fields of it. We quote the following in the Journal of Agriculture, which has largely been given in The Cultivator, but we repeat because many are still asking as to this pest, and one subscriber recently sent the office a sample of the parasite, not knowing what it was:

One of the worst pests to clover and alfalfa meadows is dodder. This is a parasite plant that grows from seed in the ground, but as soon as the plant reaches the stems of the host plant it depends no farther on the soil for sustenance, but fastens itself to the stems and stalk of the host and saps from its life juices. It is practically leafless and the stems are nearly yellow in color. Its thread-like stems wind themselves around the stems of the host plant. They draw their food from the plant on which they live by means of small root-like projections which are thrust through the bark of the host plant. There is but one practical means of eradication, and that is to cut both the host plant and the dodder, allow them to cure and burn all together on the ground, where the dodder has been growing. It is important that this should be done before the dodder goes to seed. The time of seeding depends of course upon the location, however, we have found that the dodder can be effectively destroyed any time before the clover blossoms begin to die. The grass should not be raked but spread out over the field. In burning in this way the stubs of the clover on which some of the dodder plant may remain may also be destroyed. In case the plant has seeded and there are signs of the plant after the patch has been burned over the stubs of the clover should be hoed once or twice to prevent the plant from infesting the next crop. If the patch is a very large one, some kind of a hoe blade should be made and attached to the beams of a common double-shovel plow and the patch hoed with the horse. If the blade on the horse hoe is kept sharp, the stubs will be easily cut. Spraying with chemicals has not been found to be satisfactory.

Rib Grass—This is another grass that is becoming quite a pest in the meadows. Since it is a perennial, that is, it may live for a number of years without going to seed, it is impossible to destroy even by cutting it before it does seed. The only practical method is to plow up the meadows as soon after the crop of hay has been removed as can be conveniently done. Disk three or four times during the fall and the next spring plow again if necessary to turn under any growth of the grass, if not disk well and harrow several times and plant to corn so the ground can be plowed both ways. Keep in corn two years if the soil is rich, then sow to small grain and seed to meadow again. Generally by this time the grass will be entirely destroyed. If not, sow cow peas as soon as the small grain has been harvested and plow under late in the fall. Follow with corn, alternating with small grain and cow peas till the grass is eradicated.

If you aim to keep bees for a profit, keep your stock of bees according to your pasture. It is just as easy to run short of pasture for bees as it is for stock.



Does this stream of water look good to you?

It certainly does to the two men standing beside it. They are the President and Treasurer of the company to whom the plant belongs.

It is raising 40 inches of water from 250 feet below where they are standing. This water goes into a reservoir 18 feet above the pump through an 8-inch pipe-line about one-eighth mile long and you cannot see a pulsation in the discharge if you try. It has been doing this for over a year. There have been no repairs, not even new leathers, and it runs better, if such were possible, today than it did a year ago.

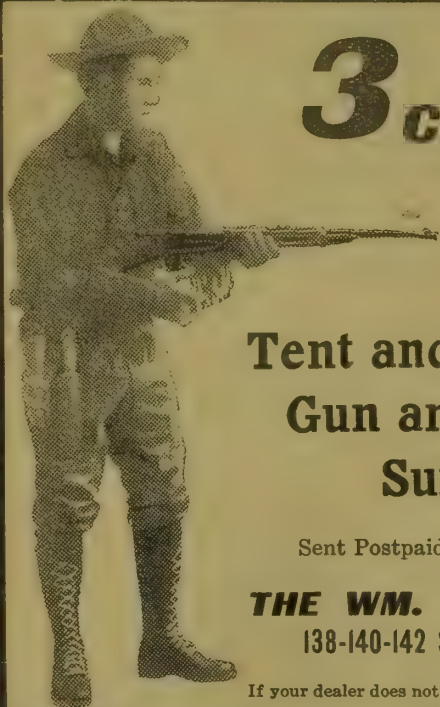
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With the Citrus Growers

FROST OR VETCH?

WE RECENTLY visited a grove in which the oranges were being harvested. There were two varieties and they were almost void of juice. The fruit looked all it and hung onto the trees with the assistance of a puffy orange. The grower knew it could not be caused by vetch because none of the fruit dropped. He had grown a heavy crop of vetch the winter before and he was sure that vetch had robbed the trees of the moisture at a critical period and the oranges had never become filled up in. Still the trees in the mean while had made a good growth and set their crop. We were told that this grove had never been frozen, not even "killed" and with the exception of a cold spell in the fall, it had been a mild winter. In this identical orchard we found a tree that was growing under a large overhanging cypress. There were some oranges left on this tree and they were juicy and heavy of fine quality. The cypress tree acted as an umbrella and protected the orange tree from the cold. It was an unusual occurrence for oranges to be so fully frozen and not drop, but it must be remembered that the cold spell of winter that froze the oranges last winter, was followed in a very few days by a rain that continued for a week or more. When the rain stopped, the trees had recovered and the rain stimulated the action of the sap, which did not mend the injured cells within the fruit. In other sections where the cold injured the fruit, large Washington Navels were so badly frozen that they were not fit to eat when picked in April, being dry and shaly, though in outward appearance they were fine in form and color and clinging tightly to the tree. Much of this fruit has been shipped and without doubt to the injury of the particular orchard under which it was shipped. It has been considered that rain following a freeze is a most fortunate occurrence. No doubt that. It is better for such fruit to drop which it will do if not picked soon after a freeze.

ORANGE SOILS.

If asked which are the best orange soils, it would surely be a hard question to answer. We sometimes think it is not so much what particular kind of soil is best as it is the treatment that is given the grove after it is planted. The situation has as great an influence as anything perhaps. Soil that is heavy and soil that is light in texture will both produce good oranges which means also good trees. When planted on the most sandy soils which have substrata that will not allow the water to drain off too rapidly, orange trees grow to perfection and produce fine fruit. Trees planted on soil so heavy that it will crack when allowed to become dry, will also produce the same. If the trees have sufficient moisture and the proper kind of fertilizer and enough of it, the trees will grow and produce good fruit, provided the situation is proper and good care is taken of them. These two last named requirements mean the difference between success and failure. Trees grown in a situation that is too cold will not bring profit to the grower no matter what the soil or care is, still, many young groves are being planted in such places. The last few years have been favorable to the orange grower and the territory is being expanded in some places, beyond the safety line. This has been done before

and followed by regrets. The orange tree will stand much more rough treatment than the great majority of other kinds, but it will not give a profit unless the situation is within certain temperature lines, no matter what the treatment may be. We recently saw in the newly opened desert region, orange trees growing thriftily and bearing good crops on soil that drifted in the wind and would not resist the pressure of the foot on unplowed land. Trees just as thrifty and productive were growing on soil, which, when irrigated one day, would crack open the next. The climate seemed to suit these trees, the treatment was fairly good and the soil was rich, but opposite in physical makeup.

NITROGEN GATHERING BACTERIA

In an address before an Illinois farmers' institute, Dr. Burrill referred to the nitrogen gathering bacteria as follows:

"There are peculiar bacteria which are not invariably found and which certainly are not everywhere present among the hosts of living organisms commonly at home in fertile soils. After much careful investigation and no little difference of opinion, it has been conclusively settled that while green vegetation cannot make direct use of the free nitrogen of the air, the combined nitrogen, in the form of nitrates is absolutely essential to their life and growth. These nitrates are, as we have seen, freely soluble in water and tend to leach away. If, therefore, we should return to the soil everything that grows upon it, we should still find fertility decreasing, unless in some way nitrogen can be added from an extraneous source. The store of this substance is not inexhaustible in any soil. In spite of any contributions which could be made from the products of the soil itself, whether these were fed to animals or not, this essential element of fertility would constantly diminish."

Now we know that soils in nature have not thus deteriorated. Without help from men they have through thousands of years gained instead of lost their nitrogenous supplies; though it must be true that great losses have in the meantime occurred by drainage. There must, therefore, be some means of supply, some accession from without which more than balances the losses. If green vegetation cannot absorb and confine the free nitrogen of the air, of which the quantity is practically unlimited, something else must do so."

"How the clover acted as a fertilizer was not known until about fifteen years ago. Since that time our knowledge upon the subject has very considerably increased, and every year now something more is learned. Leguminous or pod-bearing plants unaided have no more ability to help themselves to the nitrogen of the air under any circumstances than have other green plants. Certain bacteria existing in the soil penetrate the soft tissues of young roots of legumes and multiply within these living tissues so as to form a little mass of gelatinous substance. Responding to the irritation produced about the bacterial invaders not unlike the formation of a gall consequent upon the sting of an insect, numerous nodules may be formed on the roots of one plant, and they have characteristics peculiar to the species of plant on which they occur. Some are characteristically much larger than others, or they grow in different shapes, or have different forms of grouping. In some way not well un-

derstood these plants with nodules or tubercles are capable of getting sufficient nitrogen from the air abundantly to serve their purposes when the soil has no supplies."—Coleman's Rural.

CAREFUL FRUIT HANDLING.

It has taken years to learn the necessity for extreme care in handling of fruits. We believe it may be said that nearly all fruit shippers knew in a vague way that great care was necessary to the best results. But this knowledge was not sufficient to secure action till Mr. Powell came and preached the gospel of greater care. And even yet it will take hard knocks in the shape of losses to convince many of the necessity of great care. On this point the Riverside Press recently remarked:

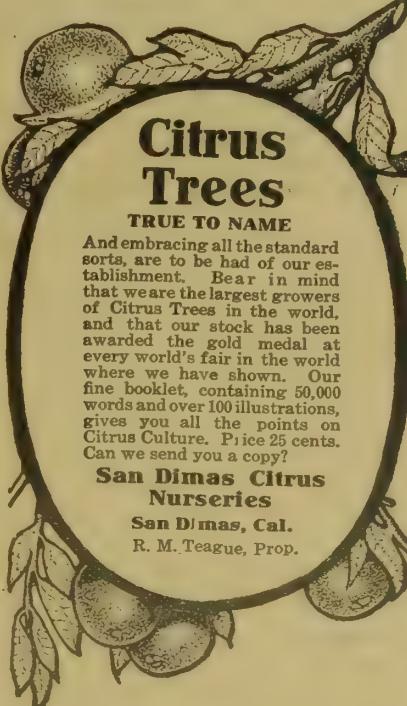
Too many men pay no attention to the scientific and practical tests that are being made for their benefit, but are content to go on in the old way. And those men are losing money simply because they lack the intelligence and enterprise to avail themselves of the results of Mr. Powell's work and the valuable advice he has been able to formulate as a result of his investigations.

This fact is certainly true—the growers and packers of Riverside who have been prompt to act on Mr. Powell's suggestions have made the big money on oranges this year. More careful and intelligent handling all the way from the tree to the car, has largely eliminated decay and resulted in the fruit reaching the Eastern market in condition to command the highest prices. The difference between \$3 to \$4 per box and \$2 to \$2.50 per box in the Eastern market is the difference between a small margin of profit and a return so generous as to make the orange business remunerative enough to attract investors and settlers here from all over the country. The men who have been getting these fancy prices have spent more money in producing the fruit and in handling it than others have; but, if the oranges have cost them 15 or 20 cents a box more, they have sold them for \$1.00 to \$1.50 more. The ex-

tra cost, therefore, would seem to be a mighty good investment.

We have reached a point in the orange industry when it no longer pays to grow poor fruit or to pack and ship it in a slovenly manner. There was a time when the output of our orchards was so small that there was a market for most anything that could be called an orange. But that was a long time ago; present conditions are such that the only way to make money in the business is to make use of all the improvements science and experience suggest and to put the same amount of intelligence and enterprise into the proposition that would win success in any other venture.

The growers who have not been studying Mr. Powell's work and acting on it have had some pretty stiff jolts this winter in the great range of prices; and if they are wise, they will study his latest report and go to work to profit by it next season.



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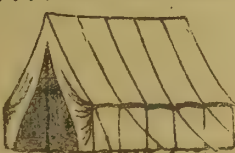
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THE SMALL FARM

The Cultivator has been a constant advocate of the small farm proposition. The attention of the editor was directed to the study of small farms by observation while a resident of Iowa. There, as in Nebraska, Kansas and other Middle West States, the general farms are big amounting sometimes, to several hundred acres. These the owner usually attempts to cultivate, but more frequently discultivates because of the scarcity of hired men. Naturally there is great waste on these big farms. Crops are not gotten in on time, rain damages them and winter overtakes them standing. It is a reasonable per cent to give when we say that at least 15 per cent of the grain product of these States is lost annually through inability to harvest them. Now, where is the economy in owning a large farm on which 15 per cent of the grain profit is thus lost, and where is the pleasure in owning a big farm to kill the family in an effort to run it? Taxes must be paid, fences kept up, buildings repaired, living gained, all of which it were easier to do on a smaller but better tended farm.

Our attention is again called to this favored topic of discussion by a letter just received from a farmer resident of Illinois, who it seems has had the experience so common to all eastern farmers. In this letter, Mr. Plinius of Santa Clara, says: "Six years ago I came to California from Champaign county, Illinois, I owned and farmed 640 acres of as good land as lies in that county. I worked myself, and my family worked

themselves almost to death to farm our land and make it pay. It paid, of course, but since I have been in California I have made more clear money from 25 acres of fruit and vegetables than I did off of 160 acres corn, and we have none of us worked more than we felt was good for us."

Now there we have the idea of a small farm as against a big one. More land, more work, less profit, eternal worry. The only mistake the Eastern farmer makes when he comes to this State is in not culling down his imagination to the actual necessities of his case. Ten acres are enough for any family to work. Better a ten-acre tract thoroughly cultivated than 20 acres half cultivated. Take the small farm.

OUR TREASURY SURPLUS.

We are confronted with the largest treasury surplus in time of peace in the history of the government. At the close of the fiscal year, June 30, the national treasury balance was reported to be \$87,000,000, truly a stupendous amount.

This vast aggregation of ready cash suggests some reflection. "If in the face of national expenditure unprecedented in size for a year of peace," says the Literary Digest, "the national treasury surplus is so unduly enlarged, why is it not an unanswerable argument for a decrease in custom duties from which the revenue is in large part derived?"

No economist will take issue with this suggestion no matter whether he is a protectionist or not. We all know that high tariff duties create high prices, and that the common people who directly suffer by reason of these high prices are the ones who in the end furnish the nation with its enormous treasury surplus. The rich contribute their quota of course, but they are so greatly in the minority, compared with the common people, they do not constitute an element of consideration when discussing this subject of tariff revision.

Personally, we have been a stalwart in the belief in high protection, but the time has come when Congress should revise the tariff list and reduce a good many articles to a lower level, putting a number of the essential materials which enter into our home life and industrial development on the free list. Lumber is one of these. A dozen, or so, other commodities might be mentioned as equally suggestive of revision.

The nation does not need so vast a surplus in time of peace.

Let our water ways be rehabilitated to ease the congestion of the railroads and furnish additional transportation for our products to the markets of the country, this will use up several millions of the surplus and be a direct and lasting benefit to the industrial classes. The Florida Agriculturist has come to the conclusion, as its editor writes, (this is his language) "personally we have always been a staunch protectionist, and still of the same belief in theory, but practically we have reached the conclusion that we are too much protected." That is the conviction thousands of protectionists have reached, and Congress will have to sit up and take notice of this change in public opinion. We do not mean to stand for free trade as the Bryan school would have us do, but to so revise our tariff as to make rates more just and equitable all along the line.

In one way the treasury showing augurs splendidly for the future of the country. We shall certainly have no panic while the treasury is so replete with cash. The outlook is healthy and there appears no sign of disturbance on our financial horizon. This being the case it is a good time to stop and revise some tariffs which affect the common people directly, but will not materially reduce our customs duties, at least to an extent which would endanger the republic.

RAILROADS AND CROPS.

Apparently the scare of railroad magnates is over and they begin to figure on the outlook for this fall's business. Up to a month or two ago, with one or two exceptions, they persistently preached that the enforcement of the rate law would paralyze business generally and drive the railroads into bankruptcy. The shortness of crops in the corn producing section of the country was paraded as the last straw which would work the ruin of the railroads. But today there is hear no more of this calamity cry. Instead, the

managers of the trans-continental lines are busily engaged figuring how they will get cars to move the crops to market and thus keep the motive power employed. They have ceased worrying over the prospect of short crops and light trans-continental passenger traffic and, in fact, make no hesitancy in saying there is going to be all the business they can take care of. Discussing this subject with a well informed railroad man the last week he said: "The car shortage of last fall and winter are ample proof that when there is a great crop of grain or fruit, the railroads are utterly incapable of transporting it. A few years ago the announcement of a possible crop shortage would have created consternation among the railroad kings, but just the opposite the case today. Then they had to depend on farm shipments for the greater part of the business, as the West was comparatively a new country and farming was its chief industry. Now, however, this section of the country is vying with the East as a manufacturing district and the railroads obtain a great deal of their traffic from the shipment of goods made in western factories."

In addition to the factory output also, the West particularly the Pacific Coast, with its constant increasing population, is demanding ten cars of coal where one was needed ten years ago. The citrus industry has increased to more than double its former quota and has suffered severely the past two years from the inability of the railroads to care for it. Then, too, passenger traffic has become enormous between the East and West, and the question is not "can the railroads get the people to carry," but can they care for the people they will carry? So, from a purely business point of view, the rate bill is not going to reduce the earning capacity of the railroads, nor is the two cent passenger rate, now in force in many Eastern States, going to cut the profits in that department very materially, for the reason that long hauls now count straight two cents where before they were computed at one and a half cents. A ticket to Omaha and return from San Francisco or Los Angeles, formerly cost \$60. Now it costs \$80, and as the law prevents cutting rates the price will have to rule at about that figure.

But it is not upon the passenger traffic that the railroads depended for their revenue, but farming and farming is still the chief industry. So in a few weeks we shall doubtless again hear the cry of car shortage and our orange growers will be hard pushed to get cars to move their product.

By the way, what has resulted from all the investigations the interstate commerce commissioners were making last winter about car shortages and coal famines? The work should have stopped now that the quiet season has begun. This is the very time to insist that cars be provided to move the orange crop. If the Exchange and other associations wait until next winter before taking decisive action, the same conditions will exist then as they did last year. Past experience has shown that the railroads will not spend a penny on improvements unless forced to do so. Let's not sleep on uncertainty in the present stance.

ASTONISHING INFORMATION.

In the June number of Mertz Magazine, Speaking of the Live Stock Tribune, and its recent change of ownership, the editor refers to former contributor to this paper as follows: "Mrs. A. Basley, for years editor of the California Cultivator, and at present occupying a similar position on the Los Angeles Sunday Examiner, is the editor of the Live Stock Tribune etc."

Mrs. Basley never was, nor never pretended to be the editor of the California Cultivator, nor the Examiner, either. She was one of a dozen strong contributors to the columns of this paper her department being confined to poultry. In this connection, we may say, she is a versatile well informed, conscientious writer on poultry, especially strong on the care of young fowls. Mrs. Basley is now editing, most acceptably, the Live Stock Tribune, which she purchased some months since; her place on the Cultivator being taken by Frank H. Thomas, one of the most useful writers on poultry subjects in the State, as well as one of the most successful poultry breeders. He is one of the four judges appointed this fall for the poultry department of the State Fair. His name alone won him this distinguished honor and he will make good.

August 1, 1907.

News of Country Life in the Golden West

Southern California Northern California

AGRICULTURE.

Over a dozen cars a week of hay and grain each are shipped from Hemet.

An effort is being made to establish a beet sugar factory at Santa Ana.

San Diego fined a milk man who used formaldehyde in his city trade, the sum of \$100.

Elsinore honey is ruling at high figures and bringing satisfactory returns to the bee men.

Since California won first on her peanuts there is increased interest in the growth of the goober.

The Neuvo Land Company has subdivided its large holdings near Riverside and will sell it off in small ranches.

W. W. Van Ornum of Hemet raised over 400 sacks of potatoes on five acres. Sold 340 sacks for \$565, saving balance for a second crop.

Mentone Irrigation Company is appealing to the Supreme Court for reversal of the decision in its fight with Redlands Light and Power Company.

From many sections of Southern California the report comes that Black Leg has broken out and is causing consternation in the cattle-breeders ranks.

A representative of the State Fair has been in various sections of the State of California creating interest in that event which comes off about one month hence.

Owing to carelessness of campers in Santiago Cañon, back of Santa Ana, a fire patrol has been placed there which will probably arrest any who are too careless.

San Bernardino has established a rule by which all sellers of milk within the city limits must secure a permit from the Board of Health. It is causing much unfavorable comment.

The Colorado river has receded very rapidly lowering at the rate of two feet a week. The rapidity with which the fall is coming is causing some concern on the part of irrigators.

Los Angeles city council has placed a license fee of ten cents on each hundred gallons of milk sold inside the city limits, and thirty-five cents on each hundred gallons of cream.

Riverside boasts of a sunflower, the stalk of which is over twelve feet high, measuring three feet in diameter at the base, and has a blossom twenty inches in diameter. Must be from Kansas.

With the U. S. importing over a million dollars worth of peanuts, farmers in Southern California are getting busy figuring on some of that money at home. Orange county is at present our heaviest producer.

Experiments are being made in the San Joaquin ranch below Santa Ana, in the raising of asparagus, rhubarb and celery. This year forty-five acres are to be set out as an experimental plat and if successful three thousand acres will be set out later.

Secretary Garfield, Gifford Pinchot, U. S. Forester; F. L. Newell, head of U. S. Reclamation Service are expected in Los Angeles next week. Efforts will be made to bring about more perfect watershed protection as a result of their visit to Southern California.

HORTICULTURE.

Redlands has shipped twenty cars of lemons up to this time.

Watermelons, near Santa Ana, are said to be a rather shy crop this year.

Fullerton packing house is now busy with the final output of Valentias.

Santa Ana Register reports peaches with fair crops and fruit in fine condition.

Redlands is to have a pre-cooling establishment in service for its next year's output of oranges.

The end of the cantaloupe season of the Imperial valley is nearly here. It has been a most successful season.

One packing house at Azusa averaged \$5000 per month paid to orange and lemon packers during the season.

Fumigation of orchard picking boxes is to be a factor in next year's fruit campaign in the orange groves of Redlands.

Walnuts are being reported as "fair to middling." In some sections nuts have dropped badly, but there is still a fair prospect.

Azusa and many other sections are also caught by the charge of return of empties, especially hitting strawberry and blackberry growers.

Highland's oranges are all shipped making a total from that section of 1568 cars. This is more than 300 in excess of last year's shipment.

The Southern Pacific management is giving positive assurance that another season will see plenty of fruit cars for handling Southern California output of oranges.

Five hundred men, women and girls are employed at the Pasadena cannery putting up peaches. It is estimated that 1200 tons of peaches will go through this one house.

Irwindale berry growers are complaining because Wells Fargo & Company are charging for the return of empties, which rule we understand, prevails over the State now.

An orange packing-house at Azusa has installed a huge blower which pumps cool air from the basement through the building, thus giving greater comfort to the employees.

J. J. Miller, a cantaloupe grower in Imperial valley, shipped 537 crates in one day recently. This is said to be the largest number that has ever been sent by one shipper in one day out of that valley.

Commissioner Pease, of San Bernardino County has returned from an inspection of the White Fly pest at Marysville. He reports that the people there have given most thorough attention to wipe out the pest.

Two trees in the Redlands lemon grove have supplied their owner with \$42.12, or \$21.06 per tree. It is up to the real estate men to figure on what one little ranch of ten acres will bring their owners and begin selling real estate on the basis of the product of those two trees.

The long desired wrapping machine for oranges seems to have materialized for one of the packing houses in Redlands and a machine has been installed to wrap all oranges that pass through the house. The machine simply wraps, the packing being done after the wrapping has been done. It is said to give uniform wrapping and to be a time saver.

AGRICULTURE.

Improvements in the levees in Yolo county are being pushed.

Pomona grange held an all day session at Santa Rosa last week.

Stanislaus county is making an effort to hold a county fair this fall at Modesto.

The creamery men's convention will be held in Davisville, November 21st to 23rd.

Representatives of a large beet sugar concern are examining soils in Sutter county.

Fresno county supervisors have granted a \$2000 appropriation to aid in the County Fair.

The Sacramento Drainage Act has been declared valid by the Superior Judge, G. W. Nicol.

Prof. W. T. Clarke is back from his Alabama work and again occupies a chair in the State University.

The Kings County Poultry, Pigeon and Pet Stock Association is to hold its show on November 26th to 30th.

Twenty costly prizes is the sum total of the offerings to be made at the Irrigation Congress at Sacramento.

Twenty-seven and a quarter cents per pound were paid by the Humboldt county creameries for early July delivery.

There is friction between the dairy-men and the creameries of Hanford as to the price to be paid to the producers.

The big canning company of the Pacific Pear Packing Company, of Oakdale, is putting up a big pack this year.

Secretary Howard, of the Hanford Fair Association, says "that a big Fair is on." Hanford always has a good fair.

Fresno consumers claim that the combination of the creameries compels them to pay excessive prices for dairy products.

The Laton Co-operative Creamery Company claims an average price paid to producers of thirty-one and eight-tenths cents.

A farmer burning weeds from an irrigating ditch, near Ceres last week, let the fire get beyond his control and burned about fifty tons of hay.

It is estimated that three hundred thousand acres of land will be reclaimed from Tulare Lake by drainage operations now under consideration.

Many valuable samples of new grain and important records were destroyed in a fire which occurred on an experimental grain farm west of Yuba City recently.

Valuable timber has been burned in Kern Cañon, near the Edison Electric Company's plant. Over fifteen hundred acres of timbered land being covered by the flames.

Farmers along the Sacramento and San Joaquin rivers are compelled to pay \$1.00 higher freight rate than formerly, on steamer freight carriers. This is claimed to be due owing to the excessively large crop.

The Gulala bridge near Ukiah was destroyed last week by a drove of cattle which stampeded near the middle of the bridge which caused one span to collapse killing part of the cattle. The cattle drover is to commence suit against the county.

HORTICULTURE.

Hanford peaches are ripening rather earlier than usual.

Prof. Ralph E. Smith is inspecting orchards at Dinuba.

Vacaville is selling prunes at \$40 per ton on the trees.

A new cannery has been completed at Gilroy and is now running on tomatoes.

Seeded prunes are now being shipped in one pound cartons from Visalia.

Peach men are wondering at the amount of sulphur which they may use in sulphuring.

Turlock streets show a busy scene with melon wagons plodding through them these days.

First full car of melons was shipped from Turlock last week. It went to Chicago.

One steamer carried four thousand crates of plums from various places along the Sacramento river in one trip.

Tulare county Board of Trade has secured a fine location at the State Fair for its contemplated "prize winner."

Kings county superintendent of schools has been besieged by children for certificates entitling them to work in the canneries.

The railroad company has taken a hand in closing the break in the Buena Vista levee, and it is thought it will soon be accomplished.

Some go as far as to make the claim that the white fly at Marysville has been completely eradicated, but this is a case which will bear watching.

San Francisco Bulletin estimates the dried fruit output of this State this year at \$15,000,000, canned fruit at \$14,000,000, walnuts and almonds nearly \$2,000,000.

The recent warm spell ripened the table grapes at Lodi earlier than was anticipated. It is estimated that the grape crop will be thirty per cent short of the average.

Plum trees in a certain orchard near Yuba city are making a net return of \$10 to \$13, and it is claimed many large orchards will average \$500 to \$600 per acre this season.

D. E. Sprott, manager of the Tulare County Fruit Exchange, is inspecting the orchards of the Tulare county citrus belt, and announces that the coming harvest will be an average one.

A farmers protective association has been organized in Sutter county. The officers are: W. P. Crozier, president; C. W. Thresher, vice-president; L. A. Keith, secretary; and R. A. Cowee, treasurer.

The following five men are representatives of Fresno county at the Irrigation Congress: Lucius Baker, John Fairweather, D. S. Snodgrass, C. B. Shaver and John S. Dore. There was a strong contest on the appointment of Mr. Dore who finally won out easily.

It is estimated that seven thousand trees and plants have been defoliated and destroyed in the city of Marysville to wipe out the white fly pest. A total cost of inspectors and legal services has been \$8500, while the work to owners, to city, and others, has been about \$3500.

PER
2 BUSHEL
SACK

\$1.90

PER
2 BUSHEL
SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by all largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultry men who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Flicher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland.
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis and Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 505 South Main Street.
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Beef Scraps Raw Bone

GUARANTEED ANALYSIS:

Protein65%
Fat8%

Made of Cooked and Dried Livers, Lungs, Melts and Clean Scraps. No fertilizer ingredients in these Beef Scraps.

Pure, Clean Animal Matter Poultry Foods

WESTERN MEAT COMPANY SOUTH SAN FRANCISCO CALIFORNIA

GUARANTEED ANALYSIS:

Protein25%
Phosphates45%

Made of Clean Beef Bones, surplus fat removed. Cleanest Raw Bone on the Market.

Lincoln Avenue Poultry Yards

—Capt. Mitchell's S. C. White Leghorns—

To clear a few yards for young stock we will sell a limited number of extra choice breeders at half price until August 15th. They are all utility birds with conformations ranging from 150 to 250 eggs per year; prices from \$1.00 to \$3.00 each for hens and \$3.00 to \$25.00 for cocks. If you are interested come and see us or write.

CARL C. CURTIS, Owner

Lincoln Ave. and Ventura St., Pasadena, Cal.

A GOOD TONIC ACME ROUP CURE CURES

FEED TO YOUNG CHICKS WILL KEEP THEM HEALTHY AND VIGOROUS; THE OLD FOWLS WILL MOULT QUICKER, AND EASIER; PULLETS WILL LAY EARLIER AND LONGER

LEE'S EGG MAKER

IS THE BEST TONIC MADE

LEE'S LICE KILLER
IS GUARANTEED

HENRY ALBERS CO.
315 SO. MAIN, LOS ANGELES

Beef, Blood and Bone Will Make Your Hens Lay

This is not a medicine but a high grade nitrogenous food. Write for free booklet, "How to make Hens Lay." Our Poultry Foods are sold by all local dealers and manufactured solely by

The Pacific Guano and Fertilizer Co.

Also Pioneer Manufacturers of High Grade Indiana and Yelo Sts., San Francisco, Cal. Fertilizers. Write for our free booklet, "Farmer's Friend." Valuable to all farmers and ranchers.

Profit in the Poultry Yard

We solicit short articles of a practiced nature from the fancier and utility breeder, giving their experiences with poultry. All inquiries pertaining to feed, management, disease and its prevention, will be answered through these columns.

STATE FAIR.

LET US consider the many advantages of exhibiting at the early fall Fairs, especially the California State Fair, held at Sacramento, Sept. 2 to 14. There we meet people from, not only California, but the surrounding States, who come to exhibit, to see what others exhibit and to buy breeding and exhibition stock for the coming breeding and show campaign.

If you have never shown only in your local show, get your birds ready and take them to Sacramento, as the educational feature alone will pay you for your trouble. Many have good birds (or think they have) who only attend some local show, never having had the advantage of showing with, and comparing their stock with successful breeders from other sections.

The Fair Association is offering very liberal cash premiums this year to encourage the breeder and will no doubt be the means of bringing together breeders from all parts of this and adjoining States. While September is a bad month for a show on account of our old stock being in the molt, yet we have the same chance as our neighbors.

Premiums Offered.

On all recognized standard varieties of poultry, turkeys, pigeons, geese, ducks, guineas, capons and ostriches liberal cash prizes will be paid, whether there is competition or not, provided the specimen exhibited is considered worthy by the judges.

The prizes on cocks, cockerels, hens and pullets are \$1.50, first; \$1.00, second and 50 cents for third. Breeding pen, to consist of one male and four females, \$5.00, \$3.50 and \$1.50.

Bronze, Narragansett and White Holland turkeys are granted \$4.00, \$2.50 and \$1.00 as premiums; while Buffs, Slates and Blacks are the same except that the second prize is \$2.00.

In ducks Pekins, Aylesburys, Rouens, Cayuga, Indian Runners and Mascovy all command, \$4.00, \$2.00 and \$1.00 premiums; and in the same breeds the best pair under six months is granted \$2.00, \$1.00 and 50 cents in premiums. Gray Colls, White Colls, East Indian and Crested Whites are each granted \$3.00, \$2.00 and \$1.00 premiums.

Toulouse, Embden, Brown Chinese and White Chinese are offered \$4.00, \$2.00 and \$1.00 premiums; the Gray Africans, \$3.00, \$2.00, \$1.00 while the Canada and Egyptian are granted only first and second—\$2.00 and \$1.00.

Guineas, Whites and Pearls are offered as first, \$2.00, and \$1.00 as second.

Best display of Capons, not less than five specimens competing, \$3.00 for first and \$1.50 for second.

All pigeons, best pair \$1.50, \$1.00 and 50 cents.

Best display of Ostriches, \$75.00, second \$35.00.

In sweepstakes there are premiums of \$12, \$6, \$3, for best display of any single variety (not less than 20)

one exhibitor; also same on best American class Asiatic, Mediterranean, Bantams, games and ducks. Also grand prize of largest and best exhibit of any breed of \$20 for first and \$10 for second.

Incubators and supplies are to be awarded premiums for display only. On this point the management says:

It being, in the nature of the case, practically impossible to satisfactorily test, during the Fair, the different kinds of incubators manufactured, and any award for "the best incubator" being certain to cause well-founded complaints of unfairness, no prize will therefore be given for the best incubator, but only awards made for displays, etc., about which there can be no question of injustice.

On these displays there is offered for best display of incubators in operation, Gold Medal or \$20.00; for the incubator hatching the greatest number of chicks during the show, \$10.00; best display of brooders, \$10.00; best display of poultry houses, \$10.00; best display of poultry fixtures, \$10.00; best display of incubators and brooders combined \$10.00; best display of poultry supplies, Gold Medal; second best, Silver Medal.

AROUND THE YARDS.

Feed well during the molt. Not a fattening food, but a food that will give strength and promote vigor.

Clean the nest regularly and keep the vermin down, encourage the hen with nice, clean inviting nests.

Fresh water, shade and clean quarters are necessary to insure the health of your flock.

Geese are profitable and hardy, if you have range and green food.

Hens that are poor layers should be sent to the butchers, as it would be cheaper to give the non-layers away than to keep them to eat up the profits of the ones that do lay.

The slow-feathering fowls are usually the hardiest, as the drain on the system occasioned by quick feathering does not weaken them.

Crop-bound fowls can trace their trouble to lack of gravel or sharp, gritty material as well as to fibrous substances, such as potato and apple parings or grass blades.

Persons who have applied themselves to studying the habits of fowls soon become aware that attending to their general comfort—that is, looking after them properly—is of much more consequence than merely feeding them. This is the reason why the French are so prosperous with their poultry farming; they grudge no time to see to the well-being of their stock, and in the end it fully repays them for the care they have taken of it.

How do you tell the full-blooded Indian Runner ducks? I have different colors in the Indian Runner breed, some light and some dark. Which are the best for laying?

What is a good way to mark young pullets, which I want to keep for next year layers?—R. C., Long Beach.

There is no way of telling positively, as to whether your ducks are pure Indian Runners. You can tell gen-

ally by the color. Yet a duck that two-thirds or one-half Runner may have the color of the pure bred. Should you breed a cross, the foreign color would crop out in the offspring. If you get your stock from some reliable breeder, no doubt they are pure bred and still be a difference in color. The color, however, has nothing to do with the laying qualities. The standard color for Indian Runners is, head light fawn, or gray and white, fawn preferred; cap and cheek markings, light fawn or gray. Bill, yellow, spotted with green when young; green when fully developed with black bean Neck, white from head to where breast markings begin, which should be about one and one-half to two inches from base of neck. Back, light fawn or gray. Breast, light fawn or gray, evenly divided about half way between point of breastbone and legs. Body and fluff, light fawn or gray, even throughout; fluff, white except an indistinct line of color which runs from base of tail to thigh. Wings: The shoulders, top part of wings and tail same color as breast, and the color should be the same shape of a heart pressed flat on back. Tail, light gray or fawn, which in drakes is a trifle darker than body color.

Punch the web of the foot of birds you wish to distinguish, with a small punch which can be obtained from your poultry supply house.

Head Lice.

Will you kindly inform me what ails my turkeys? They have been wing occasionally, in the past eight weeks and up till now I have lost 16. Their symptoms are, drooping around for a few days, slightly noticeable; they then get worse and won't eat; seem to have spasms before they die as they flop around and act as if in pain. Their droppings are of a greenish yellow cast. It takes them about the age of six weeks or two months. I give them plenty of grit and charcoal. Their feed is mostly corn and curd, mixed quite dry. I give them chopped parsley, onion and oat leaves; wild lettuce and kale.—
J. E. S.

We think the trouble with your turkeys is head lice, as head lice will kill turkeys at this age. From our letter, we think you are giving them good food and don't think this the cause, unless they get something you did not speak of. Make a special search for head lice; grease the top of head with a little lard or vaseline at night, care being taken not to use too much.

BIRDS THAT LAY AND WIN.

In the mind of the average person, poultry culture is divided into two widely different fields, which have no vital and intimate relation. A great many people who keep a family flock and even some of the large utility breeders consider that the fancier has nothing in common with them; that money spent with a fancier for stock or eggs is wasted. In other words, they think the breeder of fancy poultry is a parasite or blood-sucker. This is not only true of those who have had no dealings with poultry specialists, but also with some who have exchanged good money for bad birds. Not bad birds from the few point of some fanciers, but worthless for all practical purposes. It is against this kind of birds and those who breed them that we raise our voices. They not only injure those who buy of them but also discredit all other breeders.

There are honest fanciers. We are

not measuring all of them with the same yard stick. A great many good, honest men and women are in the fancy, who are aware of what poultry must be to be of real profit outside of the show room and are bending every energy to develop their chosen breed or breeds to their highest possibility, not only as show birds, but as practical money-makers.

Mutually Helpful.

The fancier should be, and is in most cases, a great help to utility breeders, who form the great backbone of the poultry business. He is looked upon very much as we look upon specialists in other lines. Their valuable discoveries and improvements are accepted because they are in advance of the ideas and methods we have had formerly. In the same way, the poultry specialists who give their time and thought to careful selection and mating of the finest specimens of the various breeds, in order to make them more profitable as well as attractive, gain the respect and confidence of the poultry world.

The fancier is the salt of the earth as far as the poultry business is concerned. He spends a great deal of time and money experimenting and thereby brings his special breed up to a higher plain of usefulness and beauty. His flock is carefully culled and only the choice specimens go to make up his breeding pens. Exceptional layers alone are used and thus he builds up a strain of great layers. The utility breeder buys his breeding stock of such a fancier and is pleased because he gets not only fine looking birds, but also birds that will raise the egg-producing powers of his flock. In this way, the fancier develops a flourishing trade by not only feathering his own nest, but also by making it possible for the other to profit—the fellow who has neither time nor the means nor the skill to enter into the intricacies of line breeding, exhaustive trap-nesting and the careful study of individual birds and their proper mating.

"Handsome is as Handsome Does."

Shape, color, carriage, etc., are not enough. Do your hens lay a profitable number of eggs? Is the average egg yield of your thoroughbred flock above that of ordinary barnyard fowls? The egg-producing quality of your birds should be very high so that those who have birds of your breed may profitably introduce new blood from your strain. If this be the case, you may consider yourself one of the fraternity of poultry fanciers. On the other hand, if you have succeeded in building up a flock that is able to pull down the blue ribbon at every poultry show, but of whose egg record you are justly ashamed, you are a failure and not a fancier, whoever you may be.

Must Have Eggs.

The utility breeder wants eggs and he will have them. If you have birds that are prolific layers, you get his trade, if not, he goes to some one else. Don't flatter yourself that you can fool the people. You remember what Lincoln said: "You can fool all of the people part of the time, and part of the people all the time, but you can't fool all the people all the time." "Be sure your sins will find you out," and you will be out of business. The hen's very excuse for being is to lay, so don't deprive her of it by foolish breeding.

Culling.

No matter what breed, by carefully

Egg-More

for

Early Molt

Don't let your hens molt for months. Don't let them get all run down and out of condition. They need to be fed a scientifically balanced ration during this trying season. EGG-MORE is just the thing to mix with good grains to make the same a rightly balanced ration. Many so-called "poultry foods" and "egg makers" are nothing but stimulants and not advisable to be fed regularly. If your poultry are already in a run down condition,

West Coast Poultry Tonic

is what they need for a short time; that is just what its name implies. It is very easy to mix a lot of ingredients, much of it a little better than refuse and call it egg food. And even if good foods are mixed it doesn't make an egg food unless the ingredients are adapted to the requirements. Some mixers of "egg food" seem to think that it is the shell alone that is to be made, forgetting that the hen has no use for the shell until she has made the egg.

Egg-More

is a concentrated food, very rich in protein, and a small quantity mixed with ground grains, or even with bran, is just what is needed to make her molt quickly and then lay lots of eggs. It is made of just such first-class materials and in such proportions as has been proven by long practical experience to serve this purpose, and at the same time to build up her system and keep her in the best of health. When a small quantity is mixed with good grains, or bran, as directed in each package, it can be fed either as a mash or as dry feed. The hens like it, they eat it, there is no waste; it makes the cheapest egg food that can be made, especially if you can buy your grains at home cheaper than to ship them in.

EGG-MORE is put up in 4-lb. packages at 35c; 25-lb. pails, \$2.00; 50-lb. sacks, \$3.75; and is for sale by many dealers. If yours doesn't keep it, or will not get it for you, we will deliver a pail or sack, freight prepaid by us.

Manufactured by the

West Coast Stock Food Co.

818 San Fernando St. (Through to Alameda) Los Angeles, Cal.

MAIL YOUR ORDERS

at the cost of a one cent (1c) postal card direct to the factory if your dealer cannot supply you with A. C. W. EGG FOOD in 100-lb. sacks or A. C. W. Raw Materials. We will fill your order for one sack as cheerfully as for a 15-ton carload. Our Mail Order business extends into Nevada and Arizona.

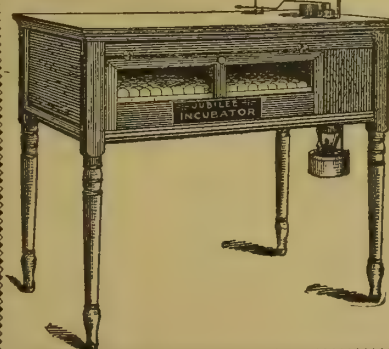
We are not jobbers or dealers, but MANUFACTURERS. We manufacture our own Meat Meal, Bone Meal, Blood, Beef Scrap, etc. A Postal card will get our prices and our new 44-page book "Chicken Sense" all about the diseases of Poultry and their cures.

The Agricultural Chemical Works

901-907 Macy Street

Los Angeles, Cal.

Manufacturers of Poultry Foods. Established 14 Years



The Jubilee Incubator Co.

HAS A BIG SURPRISE FOR
THE POULTRY FRATERNITY

SUCCESS NOW ASSURED BY USING
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We have something new for you. Send us your name to place on list for Catalog "J" being issued.

Jubilee Incubator Co., Sunnyvale, Cal.



THE WHITE WYANDOTTES

THAT WIN
AND LAY

\$15.00 and Up Per Dozen

Lakenvelders, per pair, \$8.00; trio, \$10.00.
Mammoth Bronze Turkeys Reasonable.

Mrs. C. D. Hubbard, Box 282, San Fernando, Cal.

Bemis Plymouth Rocks

Barred and White

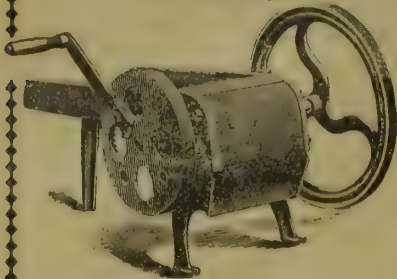
Prizes Won at Alameda County Poultry Association Show, Oakland, 1907—22 Regular Prizes and 8 Silver Cups. Can furnish best birds and eggs at reasonable prices. No incubators lots furnished.

Mrs. Florence E. Bemis, 1757 19th Ave., Oakland, Cal.

When writing advertisers, mention Cultivator.

Silver's Clover Cutter

For Poultry



This machine will cut clover, alfalfa, straw, vegetable tops and similar material, green or dry, into $\frac{1}{4}$ inch lengths, which makes it especially adapted to cutting feed for poultry. It is all iron and steel, consequently very durable. Length over all, 24 inches. Size of feed box, 18 inches long by 10 inches wide at rear end, by 8 inches at throat. Feed rollers are full width of cutting surface. Has 8-inch, 4-bladed, solid center, spiral knife, with adjustable cutter-bar, like a lawn mower. Capacity is a bushel of cut clover in 10 minutes or less. It is intended to be mounted on a bench or box to make it right height for operator.

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Newest, finest largest, and most central store. Prices the very lowest. Come and see.

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Ranch For Sale

A five-acre ranch with seven-room house. A variety of fruit. Poultry yards for a thousand fowls. Cars at the door.

Susan H. McPherson

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BARRED ROCKS

EXCLUSIVELY

Send for Sixteen-Page 1906 Catalogue

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BOX 0

PETALUMA, CAL.

Baldwin's White Leghorns

Fine youngsters at reasonable rates. Good older stock cheap to make room. Full description of stock and price list mailed free on application.

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46 Washington Ave. - San Jose, Cal.

Spargur's Trap-Nested White Leghorns

Cockerels for sale from my best hens. A few Light Brahma Hens and Roosters for sale. Eggs from I. R. Ducks and Blue Andalusians at \$1.00 per setting, \$5.00 per hundred.

H. G. Spargur, Soquel, Cal.

Ross & Tate, Altadena, California

Breeders and Importers of

Buff, Black, and White Orpingtons

Have for sale Trios, Cockerels and Pullets. Eggs for hatching, settings or hundreds. Write or call.

Two Blocks North, One Block East Altadena Post Office

WHITE WYANDOTTES EXCLUSIVELY

Good, White, Typical Birds. Stock and Eggs For Sale.

W. A. SEYMOUR

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MY EXHIBIT OF

WHITE, BUFF AND PARTRIDGE Wyandottes

Won 28 Ribbons and Special Prizes at the Poultry Breeders' Show, 1907

R. D. Box D87 L. E. BERKEY, Fullerton, Cal.

When writing advertisers, mention Cultivator

culling of non-producers as well as of those inferior in standard qualities, you will in time have a strain that will be an honor to you and to the trade. Breeders everywhere are coming to realize that there is more in individual strains than in breeds. Of course, there are some varieties whose natural advantage lies in the production of large numbers of eggs and it is easier to reach the 200-egg mark with such a breed than with those which tend to be flesh producers. However, no one breed has all the good points cornered, so we should be careful about trying to make it appear that ours is the only profitable fowl.

Be Honest.

But whatever the variety be which has taken your fancy, be honest with it and to those to whom you sell. Give 100-cent values for every dollar, and be sure the hens lay.

There are some who need for exhibition, thinking they must close their eyes to everything except the requirements of the standard—that when they have produced a fine show bird there is nothing more to do. Those who thus divorce standard requirements and utility make a great mistake. Perfect specimens, to our minds, must be more than show birds or layers. They must be both of these, also hardy and capable of producing a uniform offspring.

In proof of the fact that show birds do lay, you will pardon a personal experience. Our best layer, as shown by the trap-nest, is the hen that has won third prize twice in succession, in the last two Los Angeles shows; she is closely followed by hen-winning first at the late show, and she in turn by others of our best exhibition females. This proves to our satisfaction that show birds are good layers if properly bred. And why shouldn't they be excellent layers? They are the most nearly perfect specimens in all other respects and should excel in real usefulness. All honor to the "Birds that Lay and Win."—H. A. Wheeler of Perham & Wheeler, Lordsburg.

BREEDING FOR MORE EGGS.

In an experiment begun nine years ago the Maine Agricultural Station has been increasing the egg laying capacity of its poultry. The first year 52 trap-nests and 140 pullets were employed. The work has been extended until now 200 trap-nests are in use by 1000 hens. By the trap-nest it is possible to know the exact daily work which every hen is doing.

In one year forward from that date the 140 birds laid an average of 120 eggs each. Twenty-five laid over 160 each, and less than 100 each. Hen No. 36 laid 201 eggs; No. 101 laid 204, and No. 286 laid 206 eggs. The eggs of No. 36 were light in color and she was therefore rejected as a breeder.

At the commencement of the next breeding season, 1900, Nos. 101 and 286 were mated with males that were unrelated to them, or to each other. The cockerels raised from the eggs of these two birds were the first males produced for use in this work. In the early spring of 1901 several sons of hen No. 286 raised the previous year, were mated with the 24 two-year-old hens that laid 160 eggs and over each during 1899, and 25 others that laid 160 or over during the 1900 test.

No female has been used in the breeding pens for six years whose mother did not lay at least 160 eggs in her pullet year. No males have been used as breeders unless their mothers laid about 200 eggs per year.

The breeding pens are now filled with birds of both sexes that have six generations of mothers and fathers before them that were bred under these rigid rules of selection.

The stock commenced with in 1893 had been laying about 120 eggs each per year for several years, as shown by the flock records. During the last two years the hens have averaged 144 eggs each during their pullet year. The producing capacities of the hens have been increased about two dozen eggs per year. Perhaps this increase is not all due to the selection and breeding. The dry feeding and open air housing doubtless have contributed to the improvement. Not a drone or small producer has had a place in the breeding of these birds in six generations. During only one season, and then with but two small pens, have birds as closely related as cousins been bred together. Line breeding is followed, the matings being only with distantly related birds. The birds are vigorous, of good size, and able to stand up under hard work. They have good, large yellow beaks. They are well feathered and barred, but they are not bred for the fanciers or the show room.

PRODUCING THE LAYING HEN.

When the chicks first come out of the shell, I leave them in the incubator till the last hatched is 24 hours old, then remove to a brooder with temperature of 90 degrees, the brooder floor being first covered with a thin layer of sand and one inch of cut alfalfa, and give grit and water two hours before feeding. I feed a dry grain chick food containing 20 per cent chick grit and 5 per cent small granulated charcoal. The brooder is cleaned every day by sifting sand through a cornmeal sieve. Beef scraps are kept before them after they are four days old. This is their feed till they are six weeks old when they are given free range and are fed but three times a day, corn being mixed with their food. One part cracked corn, one part wheat, three parts ground oats in bulk with fine meal sifted out. I always feed in a litter to keep them busy.

When they are four months old, I feed one part corn, one part wheat, one part barley and two parts oats three times a day with coarser charcoal in the same proportion or fed in hoppers always before them. At five months old I begin feeding one part corn, one part wheat, one part barley and two parts oats three times a day with coarser charcoal in the same proportion, or fed in hoppers always before them, with green stuff of some sort always near. Steamed cut alfalfa and cabbage are best in winter. In rearing laying chickens it is most important to keep them growing all the time and always busy. Nothing ever has been or will be profitable brought up in idleness.

By following the above regimen and attending to proper cleaning of the chicken houses, destroying all in-

ferious vermin, insects, etc., and using scrap meats exclusively. I have reared chickens that have no superiors in laying qualities. I do not breed for yearly records, want eggs only from November 1 to March 1, and I select none for breeding that do not lay at least 150 eggs that period. In selecting my breeders I weigh their breeding, laying qualities and standard points.—H. Rankin in American Agriculturist

PRESERVING POULTRY MANURE

The preservation of the droppings of the fowls in the summer is a difficult matter, as the poultry manure rapidly decomposes, and gives the poultry house a very disagreeable odor. This cannot be well avoided when the house is thoroughly clean but the manure can be so treated that it will not only be of great value but will also lessen the disagreeable odor to a certain extent. The roosts, of course, should be so arranged that droppings will fall on a platform. Keep the platform well covered with dirt (which has been sifted) to a depth of about half an inch. To this, first scatter the dirt, and then over the dirt scatter a handful of kainit (German potash salts) which will arrest the escape of the ammonia when decomposition begins. Two or three times a week (daily is better) sweep the platform with a broom after that is done sprinkle the platform and the floor with a solution of a tablespoonful of carbolic acid in a gallon of water, and use dry dirt on the platform on top of this. A well-known Douglas mixture, composed of one pound of copperas to four gallons of water, and one ounce of sulphuric acid, is also an excellent disinfectant, and a very cheap one, that can be used freely. No ing parts with ammonia sooner than poultry manure, and a very short period is necessary for the manure to deteriorate. In the process of drying the evaporating moisture hastens the loss of volatile matter. The fat acids are capable of forming compounds which results where the droppings are kept moist with soap suds (for they must never be allowed to become dry). During the time these changes are occurring in the mass the insoluble portions are reduced, and the whole rendered more available as a plant food, as well as retaining value as a fertilizing agent. Plaster muck, fine dirt and sifted coal ash may be used as absorbent material.—Colman's Rural World.

NOTICE

In order to accommodate my increasing trade I have secured larger quarters at

636 South Main Street

four doors south of Huntington Building, where am now located with a full line of

Incubators, Brooders, Poultry Supplies and Garden Seeds

Come down; will be glad to see you.

S. H. CHURCH

636 So. Main St., Los Angeles, Cal.

SHADE'S RHODE ISLAND RE

The World's best layers.

J. W. Shade San Bernardino, Cal.

White Wyandottes Hubbard St.

Baby Chick, \$2.25 dozen. Eggs half price, \$1.15, \$5 per 100. January pullets laying when weeks old. **CANNON POULTRY COMPANY**

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WHITE, BUFF COLUMBIAN WYANDOTTES

And Golden Sebright Bantams, prize winners

Stock and Eggs in season

M. E. Dillingham, Box 67 San Gabriel, Cal.

You Can't Escape

the moulting season, but you can assist nature by feeding

Excelsior Moulting Food

Your hens will moult sometime next fall or winter if fed their usual ration but it is money in your pocket to have it over before then. The difference between success and failure in the poultry business is in producing eggs when the price is high. Get your hens to laying early and be sure of a good supply when the price is 50 cents per dozen.

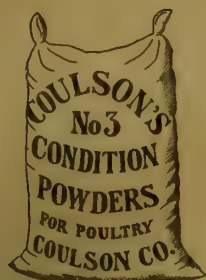
Excelsior Mills, 242 Central Ave., Los Angeles

Feed Excelsior Moulting Food—Control the Moulting

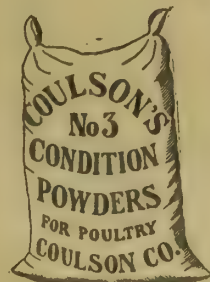
Black Minorcas Exclusively

Our Minorcas excel in size and egg production. All prizes at the late Los Angeles Show were awarded our birds. Stock and eggs for sale. Send for our new illustrated catalogue.

Perham & Wheeler, R. F. D. No. 123, Lordsburg, Cal.



Coulson's No. 3



Condition Powder For Poultry

If you are not already using Coulson's No. 3 Condition Powder, we would suggest that now is the time of year when your hens most need a tonic, to get them into condition after a heavy laying season.

If you neglect them now, and they go through the molt in poor condition, it is likely to take them a long time to start laying again, with consequent loss to your pocket.

We Claim Coulson's No. 3 Condition Powder

will put the flock in good, vigorous condition, not only enabling them to withstand any possible infection or disease, but enabling them to go through the molt rapidly, and to commence laying again before the cold weather sets in.

We practice what we preach, by giving our own hens a little of Coulson's No. 3 Condition Powder three times a week, and although they are now beginning to molt heavily, their combs are as bright and red as at the beginning of the season.

You will find that it does the same with yours if you give it a fair trial. It will not only do this, but will enable the hens to digest a much larger proportion of their food and thus save your feed bill considerably.

Therefore, if you wish to make money this fall and winter, inquire right now at your dealers for Coulson's No. 3 Condition Powder, and see that he keeps a stock so that you have it when you want it.

Where the local dealer does not keep it, we will make you a **SPECIAL OFFER** to deliver it freight prepaid to any Railroad Station in California, at the following Prices:

10-lb. Package, \$1.50; 25-lb. Package, \$3.25; 50-lb. Package, \$6.00; 100-lb. Package, \$11.00

Prices prepaid to R. R. Stations in Oregon, Washington or Nevada will be: \$1.75, \$3.50, \$6.40, \$11.50 respectively.

GET SOME NOW and insure yourself lots of eggs when prices are high.

Manufactured by

**Coulson Poultry and
Stock Food Company**

Germain Seed Co., Los Angeles
Distributing Agents for Southern California

Petaluma, California

Pioneer

Rubber Sanded ROOFING

Always a permanent protection against rain and sun. Spark and cinder proof—does not curl, warp or crack.

Easiest to lay and when once laid is down to stay.

That wear-proof surface of hard flint sand—adds years and years of wear—eliminates the repair bill and requires no painting at any time.

Best for every roof.

Samples, prices and booklet sent free.

Let us put you in touch with
our Agent in your locality.

Pioneer ROLL PAPER CO.
LOS ANGELES

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Failure of Cow.

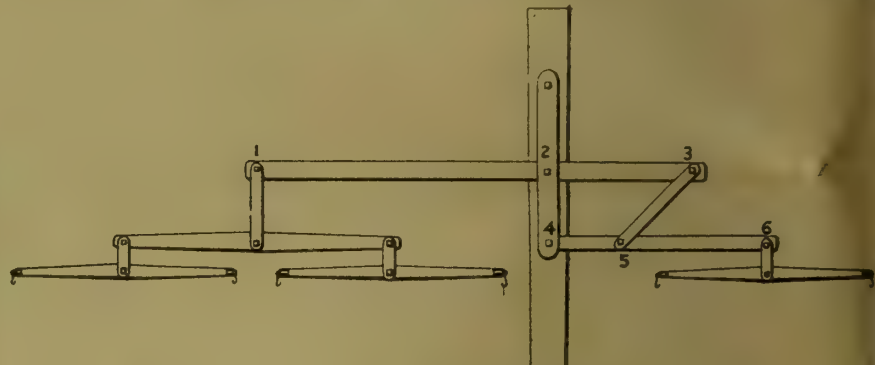
A cow came fresh three months ago, she is fat and eyes are bright. She gives only a couple of quarts of milk daily. She has always before given, on the same food, alfalfa hay, six quarts of a mixture of one part corn meal, two parts rolled barley and five parts bran, about six gallons of milk daily. We fear she has been spoiled by poor milking can we do anything now to increase the milk flow?

Give this cow a quart or more of bran well wetted and salted sharply, make it as sloppy as she will eat it. Add to the water each time until it is like a soup. Give the bran slop night and morning, increase it if desired as it cannot do any harm to the cow. At noon give her an ounce of anise or fennel seed mixed with a pound of rolled barley, a pound of bran, and half a pound of oil cake meal. Do not increase the amount of oil cake or aromatics for if you desire to feed more heavily do it; by increasing the bran and the barley in the proportion of one part barley to two of bran. Give her some hay with the grain or else her digestion will be-

mouths. If no foxtail are found that can be removed, it may be necessary to take them to the doctor for deep-seated ones. I have a young horse that required a probing and forceps ten inches long to remove one from his nose. He coughed and choked and quidded the food in his manger. He also had two teeth that needed to be repaired. Now if you cannot discover foxtail, then try for strangles by grasping the horse under the throat close up to the head; if he flinches and chokes it is sore there. Apply a mild blister on the outside and use molasses and chlorate of potash in the mouth, putting it in with a wooden spatula several times a day. The strangles should be taken care of even if not serious, as they often affect the wind of the horses.

Three Horse Evener.

The Cultivator is in receipt of several answers to the recent query of M. C. S., Rialto, regarding a three-horse evener with no side draft. Perry Lewis of Tustin sends in a sketch



A Three Horse Evener

come clogged. Grass will not answer with this heavy feed. As soon as the milk flow returns begin to cut down on the feed without you find it pays to feed her.

The udder needs the mechanical effects of friction. After milking her clean, put a little vaseline on your hands and then take one quarter of the udder raise and press it gently up with the palms of the hands, let it down and repeat ten or twelve times, then roll the quarter pressing it outwardly then into the rest of the udder, doing it all slowly and gently with the open hands. Work on each quarter a couple of minutes and then milk out the collected milk. Repeat three times, the first time you will only get a little milk, but as the protien food she is receiving is milk-making, the udder as it softens up will respond and the increase will come rapidly.

Strangles.

We had our horses in pasture for some time. Now one of them has a bad cough. She acts as though she had something that was irritating her throat and she must get it out. Others in the pasture are the same. They eat well, hold up their heads and their eyes are bright. Some of them cough all night. The fattest horses in the pasture are affected. Could it be possible that they have a foxtail or some other foreign substance lodged in the throat? They do not run at the nose. Their mangers are spattered with small particles of straw that they cough up.—Mrs. J. H., Watsonville.

I would catch up these horses and examine their throats, noses and

with the most complete figures of any we have received. From his sketch we have made the accompanying engraving.

The notes as to measurements which Mr. Lewis sends are as follows:

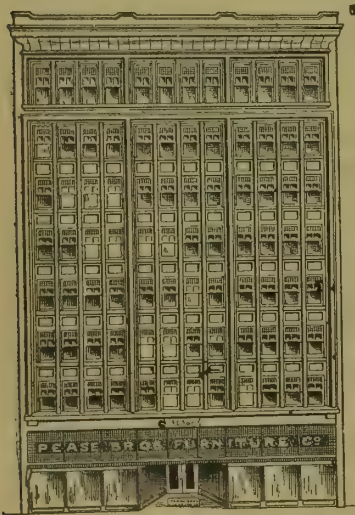
Two feet from 1 to 2; one foot from 2 to 3; one and one-half feet from 4 to 6; six inches from 4 to 5; six inches will do from 2 to 4. Get your pieces straight and measure distance from 3 to 5. Have square holes cut in irons for bolts, so they can be easily removed. In this cut the high horse walks next to tree; should you wish to drive the off horse next to the tree you can reverse the plan. You must place the double-tee part back six inches from the place where you would hitch two horses, or shorten traces. I am using one on a disc and do not notice much side draft.

Shepherd's Papers.

Will you please publish the address of the paper called the Shepherd's Guide, or any other good paper or sheep.—E. A. P., Cordelia.

The only sheep papers we recall are the American Sheep Breeder Chicago; and the N. W. Live Stock and Wool Growers' Journal, Pendleton, Ore. In general stock papers there are many like the Breeders Gazette, Chicago; Live Stock Journal Chicago; Stockman, Chicago; Live Stock Review, Cincinnati and National Stockman, Pittsburg.

Twenty-four thousand hunter's licenses have been granted in this State during the month of July.



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in the West

BEDTIME COMFORT

Is seldom given proper consideration. Restful sleep is essential to everyone. It cannot be obtained in a poor bed with a hard mattress or broken springs. A good bed is a necessity, not a luxury. It adds to your comfort as well as to your health.

O. B. Baker mattresses, for which we are the agents here, are made of the finest materials obtainable. They are the acme of perfection in bed construction.

There are many styles in these mattresses and a wide range of prices. We prepay freight to any point within 100 miles of Los Angeles.

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During July and August

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**Pease Bros.
Furniture Co.**

NOT CONNECTED
WITH OTHER STORES

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EXCHANGE 4567

Show Me the Man

That likes to know that his wife chopped the wood that cooked his supper because he forgot it, or that she or some one must clean the lamps. She is the best wife you will ever have. Now have the best

Acetylene Gas Machine

and make "you all" happy. We have it and guarantee it. You need it. Write right now.

20th Century Light Co.

609 E. Seventh St., Los Angeles, Cal.

WITH A SEIVERT OIL BURNER

You can burn 100,000 feet of air with every 120 gallons of oil; this means perfect combustion. To burn more than 100,000 cubic feet of air with 120 gallons of oil, there is a decided loss of heat. To burn less than 100,000 cubic feet of air there is a loss of fuel. The only safe and reliable burner on the market. Send for full particulars.



SIEVERT OIL BURNER CO. 1001 No. Alameda St., Cor. Main and
Ord Sts., Los Angeles, Cal.

When writing advertisers, mention Cultivator.

THE MODERN MILKING MACHINE.

Continued from First Page

expression of surprise that a work which has so long been considered necessary to be performed by the man hand, can be so satisfactorily performed by this simple machine. Of course, those of us who had never seen this operation before were full of questions. Notwithstanding that Mr. Houston was pressed to finish his work, he most courteously gave his time to answer various questions which we were not slow to propound to him. This particular machine has been in operation in this dairy for a little more than nine months and is working today as well when it was new, nearly a year ago. The only expense it has occasioned for repairs, has been for the rubber disks in the opening of the receiver. This, of course, is merely nominal as they cost five cents each or not to exceed a total of 50 cents per month for one machine. With the one machine Mr. Houston milks each morning and evening forty cows, although at this particular time the number falls slightly short of that. To milk forty cows requires, with the carrying away of the milk, the waiting upon and weighing the milk for other milkers, about two hours time. This would be about twenty cows per hour which Mr. Houston said was easily performed on an average. Bear in mind, this when the operator also weighs and cares for the milk of others. In this case he carries to the milk room a hundred and fifty feet away. When the machine only is operated and all time given to it 26 cows per hour can be milked. Or, from another view, within the usual three hours 60 cows is a fair number for the one milker to care for.

Some cows, of course, are milked much quicker than others, but invariably quicker by the machine than by hand. Incidents were mentioned where cows which had required twenty minutes to milk by hand were milked thoroughly and cleanly by the machine in two or three minutes. We say cleanly advisedly, for no "stripping" is necessary.

Of course, we asked the question as to whether there was fun doing at the time of the "breaking in" of the cows and were given the information that with some, the process was very simple; they seemed to take to the machine almost as if it were the natural method, but ordinarily it was no more work to train a cow to the use of the machine than to "breaking in" the heifer to the hand-milking method; so that when a beginning is made with the heifer, and she has nothing to unlearn, it is comparatively easy.

Naturally another question, which springs to the minds of all who see the system of receivers and rubber tubes is, "but can you keep the machine, inside those tubes thoroughly clean and sanitary?" In this respect we think the custom at this dairy is: After the night milking, the receivers are placed in a pail of pure water and the water is pumped through with force for a few moments. Preceding the milking next morning, the same is done, and after the morning milking the various parts are thoroughly cleansed with sal soda solution, all very simple and quickly done. With ordinary attention it is the sanitary method of milking.

Another one of the questions which will concern the ordinary milker is as to the initial cost of the machine which, of course, must be considered as one of the factors in any improve-

ment, but with that and the still stronger factor is this question: How much will it save? This will help progressive dairymen to arrive at the decision as to whether he will invest in such a machine. This particular machine which we saw so successfully operated is the Mehrling Foot-Power Cow Milker handled by the O. J. Weber Co., of Los Angeles and costs ready to operate \$110.

Now then, \$110 for a machine which will milk twenty to twenty-six cows an hour and at the end of nine months is in as good condition as when new; has paid for itself several times over and we believe, is a wise investment for any dairyman. Of course, a fairly intelligent man must operate it, though we have heard the statement that a ten-year-old boy of ordinary intelligence could handle the machine. This might be, but from our inspection think that they should not be placed in the hands of the more ignorant farm laborer. But even then the independent position in which the dairyman is placed, by owning this appliance, is a strong factor to be considered.

San Diego County Live Stock Men's Association, at their last meeting, adopted a constitution and by-laws in which the object was stated to be to create and promote livestock interests in San Diego County, securing the enactment of judicious legislation, exterminate contagious diseases of animals and create more fraternal feeling.

General Manager Woodford, of the California Fruit Growers' Exchange, says that the fruit industry will be ruined unless fruit car distribution is put on a different basis than at present.

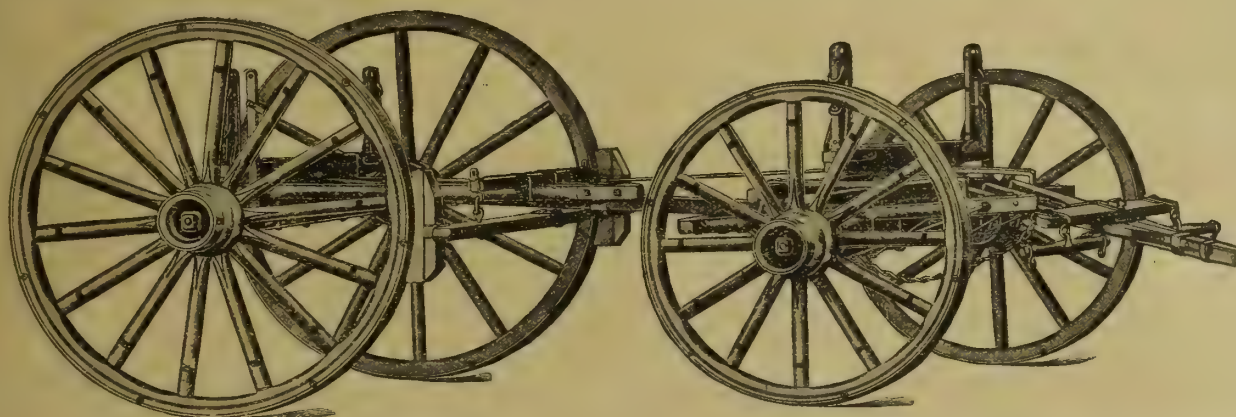
Iowa is said to produce six hundred carloads of popcorn per annum returning to growers over \$85 per acre. Calhoun and Sac counties are the center of the industry, which started five years ago. One grower has had over 300 acres, yielding 40 to 60 bushels an acre, worth on the ear \$1.50 to \$1.75 a bushel. It is planted late in the spring and harvested before field corn, the huskers getting 20 to 25 cents a bushel. The corn is shipped in the car, and so reaches the wholesaler. One grower shells his corn and puts it up in 10-cent paper packages for Omaha and Sioux City houses. This year he will plant 600 acres, build a packing-house and employ girls to put up the corn.

The Farmers' Union, now more than 60,000 strong in Mississippi, is making a determined effort to have cotton-bagging supplant jute, and the managers declare they are meeting with great success—a great many orders having already been received for the cotton wrapping. This will produce a market for a great many thousand bales of inferior grade cotton, and really, there does not seem to be any good reason why the cotton producer should send to the Philippine Islands for his bagging.

The Orange County Poultry Association held its first annual banquet in Santa Ana last week. The bill of fare was chicken in every style from fried, roasted, boiled and fricaseed on down. Nothing but chicken was served. After the banquet much crowing was heard about the table.

Watsonville Board of Trade has a collection of entomological specimens of which it is proud.

Studebaker Wagons



No one ever claimed to build a better wagon than the Studebaker.

Why?

The originator of California Wagons was Mr. J. M. Studebaker, President of the Company, who worked as a wagon maker when in his shop in the mines in this state.

They last longer and run easier than others because he designed them to withstand the peculiarities of our climate and proportioned them properly to carry the heavy loads common to this section.

Our stock is complete. We can furnish wagons of suitable size for any work. Let us show them to you at our salesrooms,

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Polytechnic Business College

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out the year. Send for Catalog.

Kellogg's Ant Paste

Lompoc, Cal., July 19, 1906.

Mfr. Kellogg's Ant Paste:

Dear sir—I have been tormented with ants for years and they seemed to get worse every year. I saw your ad in the Cultivator and sent for a bottle tho' I admit I hadn't much faith in it. In fact, kept the bottle in house a week before I tried it. One afternoon I used the Ant Paste according to directions and the ants didn't pay much attention to it and I thought it was a failure like everything else I had tried, but next morning there wasn't an ant in the house. I could hardly believe it. It seemed like magic. I wish every one bothered with ants could hear of and use Kellogg's Ant Paste.

Mrs. Francis Burbridge.
Note to Druggist—You can get this from your Supply House, or write to the manufacturers,

1010 E. Ninth St., Los Angeles, Cal.

IT'S PENNY WISE.

Policy to set out a good tree, costing good money and then let the sun burn the bark or the rabbits gnaw it when for \$1.00 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Manufacturing Company, 1380 Willow Street, Los Angeles.

Household Department

WHINEYBOY AND SMILEYBOY.

Little Mr. Whineyboy came to town one day,
Riding on a Growlygrub, screaming all the way,
Howlyberries in his hat,
Screecher leaves atop o' that,
Round his neck a ring o' squeals,
Whiney Whiners on his heels.
What do you think!—that awful day
Everybody ran away!

Little Mr. Smileyboy came to town one day,
Riding on a Grinnergrif, laughing all the way,
Chuckleberries in his hat,
Jolly leaves atop o' that,
Round his neck a ring o' smiles
All of the "very latest styles."
What do you think?—that happy day
Not a body ran away!
—St. Nicholas.

TOMMY AND THE TIGER.

TOMMY had been left alone in the house. His father and mother were called over to his Uncle Jirah's, seven miles away. His Uncle was very sick.

Tommy would be alone all day. Perhaps his mother would stay at Uncle Jirah's that night, but his father would surely return before dark. Tommy was quite sure he wouldn't like to be alone after the shadows came. He didn't mind it at all while the daylight lasted, but the night was something different.

Tommy hadn't been well. The doctor said it was malarial fever. That was why they didn't take him with them to Uncle Jirah's. He was better off at home, and he was so nearly well that it was quite safe to leave him.

"You will be a good boy," said his mother, a little anxiously as she put out the milk in a blue pitcher and the creamy bread on a blue plate and a saucer heaped up with cookies he liked best.

"Yes'm."

"And not play with the matches?"

"No'm."

"And you won't be scared because you are alone?"

Tommy's father frowned. He let his hand rest lightly on the boy's head.

"Tom's a little man," he said. "There's nothing that can frighten him."

That was very sweet praise. His father was not given to remarks of this pleasing sort. The care of a farm that was but fairly productive had taken most of the sentiment out of Ezra Crandall's life. But he was very fond of Tommy in his quiet way. And Tommy particularly liked to be called Tom. It had a much more manly ring than Tommy.

So the older Crandalls drove away and Tommy Crandall was left alone. After they were quite out of sight he went back into the house. It suddenly seemed very empty. He remembered that it was the first time he had ever been left quite alone. A little lump came up in his throat.

"Tom's a little man," was what his father said. "Nothing can frighten him."

He stiffened up and walked through the lonely rooms, whistling gaily. When he reached the kitchen he looked longingly at the pitcher of milk and the white bread. Then he glanced at the old-fashioned clock on its little shelf above the stove. It was only eleven. He would be a man and wait until noon for his luncheon.

Tommy was just eleven himself, and an excellent scholar for his age. His mother had taught him to read, and to read very well. Tommy's mother was a school teacher when she married his father, and it was her delight to impart knowledge to this favored pupil. She knew his books would furnish him choice entertainment during that day of lonesomeness.

Tommy went to the book shelf in the sitting-room and took down Robinson Crusoe. It was shady on the front porch and the little rocking chair he particularly liked was there.

Just before he sat down to his literary feast he stretched himself up on his tiptoes and looked into the valley toward the village, a little more than a mile away. Yes, he could just see it—the top of the white tent and the tall poles with their gay flags. It was a circus, and Jim Hardy said it was going to be a mighty good one. Jim knew. He never missed a circus.

"It's good both ways," said Jim with the air of a seasoned critic. "The animals is first-class, but they ain't no better than th' circus. An' they've got Pete Slicer, th' best clown in th' bizness."

Tommy sighed. He had never seen a circus. His father didn't believe in them. He had told Tommy they were wicked and a waste of time.

The boy opened his book at the right place and was soon lost in the fascinating pages.

Presently he looked up. A confused murmur of voices drew his attention. A number of men and boys were coming up the hill. The crowd was led by a man in a light wagon who was driving a glossy black horse.

Tommy closed the book and ran down the walk to the gate in the hedge. The party had halted in the roadway. The man with the black horse was standing up and looking about the fields. He had very black eyes and a huge black hat and a fierce black mustache.

"She'll sneak for the woods the first thing," he said, and he pointed ahead to the grove a half mile away. "We've got to surround her an' drive her in. An' now you fellows listen to me—more especially you fellows with the guns there. I wouldn't give a tinker's tuppence for the tiger dead, but I'll hand any man that lands her alive an' kickin' in the highway here, a hundred dollars cash on th' nail. An' to all those who want to help me git her I'll give a choice reserved seat for th' show tonight. But look here—she's likely to be as ugly as sin an' you want to keep a sharp lookout. Come on."

The man had a queer looking whip in his hand and he shook it in the air as he spoke. It was a short whip with a thick lash, and in the box of the wagon Tommy noticed a coiled rope.

The party swept along at a good pace, the black-mustached man leading and presently they disappeared behind the turn in the road by the old culvert.

Tommy slowly returned to the porch, but his mind was too excited to permit him to resume his reading. He understood that a tiger had escaped from the circus and was now roaming about the woods beyond Sam Hilburn's farm. How he would

have liked to join the hunting party! But to leave the house—and perhaps the black-mustached man wouldn't let him come. He didn't see any small boys in the party. Anyway he'd have something fine to tell the folks about when they came home.

He stood on tiptoe and looked over toward the woods. There was nothing unusual to be seen.

Then he suddenly realized that he was hungry. He went into the house and looked at the kitchen clock. It was just twelve. Then he sat down and ate the bread and milk. When he had finished the milk there was still some bread left and his hunger wasn't quite satisfied. There was plenty of milk in the cellar and he took the pitcher and went down the stairs.

The double doors that led to the yard were both open and the roomy cellar was fairly light. But there were dark corners in the forward part, under the big sitting-room and as he drew forward an old chair which he meant to stand in order to reach the swinging shelf, something queer in the darkest corner attracted his attention. He saw two small yellow-green lights there, a few inches apart and as he stared at them they seemed to move slightly.

Tommy stood very still. His heart was thumping hard. He wanted to turn and rush up the stairway. Then he remembered his father's words "Tom's a little man. Nothing can frighten him."

The green lights moved again and something black in the darkness purled softly. Those lights were too big for the eyes of a cat and no cat ever purred so loud.

That's what Tommy told himself as he stood there, his left hand gripping the blue pitcher, his right knee pressing hard against the chair.

Yet it was a cat—a cat of a variety that Tommy had never seen save in picture books. A shadowy bulk came toward him out of the darkness and as it emerged into the light Tommy's mind told him in a flash what it was. The cruel head, the yellow-green eyes, the striped fur—this was the runaway tiger. She must have slipped in through those outer doors.

A cold wave ran over poor Tommy. He wanted to scream, but he held his teeth tightly together.

The huge cat came toward him slowly, the yellow eyes on his face. When she reached him she purred again and reaching out her red tongue licked the back of his right hand. Her tongue was rough and hurt him cruelly, but he was careful not to draw his hand away too suddenly. Then she rubbed her head against his leg, a caress that almost pushed him over.

Her movements were so unmistakably friendly that Tommy's voice came back to him.

"Kitty, kitty, nice kitty," he said and timidly scratched the cruel head.

The tiger purred again and the yawned in quite a dreadful way.

Tommy's brain was working fast. Perhaps the tiger was hungry. If he could feed her it might keep her good natured. He was afraid to try to run away from her. She was too near. He would get her up into the kitchen.

"Come, kitty," he coaxingly said and turned toward the stairs. He was a little surprised to find he could walk. When he reached the lower step she was right at his heels. He mounted carefully and pat-pat-pat the tiger followed him.

Concluded Next Week

HOMELY HINTS.

Stings of Insects.

When bitten by mosquitoes, fleas, bugs, etc., bathe the parts in water or a solution of baking soda. The same treatment is good for bee stings. If the sting is left in the wound it should be carefully removed. If a person is stung in the mouth, hot vinegar or hot salt water may be used as a wash.

Blisters.

No treatment is more prompt and efficacious than fomentations as hot can be borne. Firm compression immediately over the injured place will often prevent discoloration, but hot applications have the same effect. The sooner the heat can be applied the better. Alternate applications of heat and cold are very effective.

The hardest way to pare a pineapple is to keep the fruit whole and peel it from the outside, as one could an apple. A much easier method is to first cut out the blossom with a sharp knife, then cut the pineapple in two and cut the inside out close to the rind. Another easy method is to slice the pineapple crossways in thin slices and then remove the rind from each slice.

If a cereal or vegetable burns while cooking, the usual course of action is to pour the contents of the burned pan into a clean kettle and continue the cooking. Even if this is done the food will often have a burned taste. If the first vessel is plunged into cold water and allowed to remain for a few minutes before pouring the food into the second receptacle there will be none of this disagreeable flavor.

When grinding bread through the food chopper tie a paper bag on the mouth of the chopper and the crumbs will not be scattered about. If a quantity of stale bread happens to be in hand at one time it may all be wound up and kept till needed if the crumbs are put into a covered pail which has a few air holes punched just below the top.

One woman who does her own work keeps a bottle of vinegar on her kitchen sink. After having had her hands in soapsuds for any length of time she rinses them with vinegar. This counteracts the alkali in the soap, helps to remove stains and keeps the hands white and smooth.

If a gas or oil range is used in the kitchen, heat and time will be saved by having a sheet-iron cover made of irons, cone-shaped, with a ring at the point to lift it by. The cover must be large enough to set down over the iron holder. It is good also to cover irons on a wood stove.

A darning needle is rather a small implement to use for breaking ice, but properly managed it will prove effective. Place the point on the ice and strike the needle gently with a hammer.

To remove grease from the kitchen sink and drain pipe use hot water and washing soda rather than lye. The lye is apt to form soap out of the grease and clog the pipe.

The rollers of a clothes ringer may be easily and effectively cleaned by rubbing them with a cloth which has been dipped in coal oil.

A few drops of kerosene on the chandelier makes it take up the dust better, prevents its flying, and brightens the furniture.

UTILIZING FEATHERS.

Many a thrifty housewife, who dislikes to see small things go to waste, can put the feathers from dressed poultry to a variety of uses. Small, soft feathers may be used for making quilts and feathers, if stripped from the quills and cleaned. The cleaning process may be accomplished by putting the stripped feathers into a tub and covering them with cold water in which quicklime has been slackened, using a gallon of water to a pound of lime.

Keep the feathers in the tub for two or three days, and stir them till dry.

KNEW HER CASE AT ONCE.

One of America's greatest physicians was called to the bedside of a grand dame of distinguished name and many millions, who is a leader of American society. But now the grand dame groaned and grunted in her silken bed like and washwoman. The physician examined her carefully. Then he said:

"You must get up every morning at six o'clock. Take for breakfast a cup of weak tea and two pieces of dry toast. From nine to eleven exercise, either walking or sweeping or dusting. At noon, lunch on a slice of cold meat, filtered water and stale bread. Don't sleep in the afternoon; exercise again. For dinner take nothing but a little meat, a vegetable and toast. No sweets, no wines, no social dissipation of any kind."

The eyes of the grand dame flashed fire as she said:

"But, doctor, do you comprehend my position? Do you know who I am?"

"Perfectly, madam," answered the physician. "You are an old woman with a sour stomach."

HELPFUL SUGGESTIONS.

Dainty little heart-shaped pillows are the "latest" for the baby.

The practice of honesty and fairness with children cannot be insisted upon too strongly.

The country is the place for children. It develops patience, resourcefulness and independence.

Never cease to be careful about the things you say in the presence of the children. They are proverbial copyists.

Too little fat or cream in baby's diet will produce constipation; too much, diarrhoea. Strive for the happy medium.

Plenty of sleep, good food, an abundance of water and the daily bath are requirements in all cases of beautifying.

SHE "RAISED" HIM.

A young man, who had not been married long, remarked at the dinner table the other day:

"My dear, I wish you could make bread such as mother used to make."

The bride smiled, and answered in a voice that did not tremble:

"Well, dear, I wish you could make the dough that father used to make."

THE QUICK AND THE DEAD.

Schoolmaster asking the meaning of "the quick and the dead," a small urchin says: "Please, sir, the man as gets out of the way of the motor car is quick and 'im as doesn't is dead."

TROUBLE AHEAD.

Beck (despondently)—"I said something my wife didn't like and she hasn't spoken to me for two days."

Peck (eagerly)—"Can you remember what it was?"



Enjoy the refreshment of a cool drink anywhere

APPELL'S SOUTH AFRICAN WATER BAG

(PATENT APPLIED FOR)

Keeps water cool 48 hours or longer; in sun or shade; no ice; light and convenient to carry. It is a great boon to stockmen, farmers, rangers, travelers, prospectors, surveyors, sportsmen, miners, timbermen, threshing crews, millmen, railroad men, teamsters, boatmen and everyone exposed to dry or warm weather, away from good water supply. Can be carried on the shoulder, hung on vehicle, saddle or tree, or left on the ground—anywhere so it is exposed to the air. Satisfaction guaranteed or money back.

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10 Size, Large \$9.00
16 Size, Medium \$11.00

Prices on other movements, sizes and grades are equally low.

(Charges prepaid, money refunded if not pleased.)
Write for Complete Watch, Jewelry and Silverware Catalog No. 10. It is free.

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Sold on Five-Year Guarantee as to Material, Workmanship and Operation. Have your own Gas Plant and be Independent. For printed matter, prices, etc., write

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LINERS

Liner Advertising

Advertisements in Liner Column 1 1/4 cents per word. Eight words to a line. No advertisement taken for less than 25 cents.

EGGS FOR HATCHING.

AT REDUCED PRICES BALANCE OF season from by prize winning Barred Rocks; won all special and 13 regular prizes on Barred Rocks at late Los Angeles show. Eggs from best pens, \$2.50 per 15; \$10 per 100. Can furnish any quantity. Also offer extra bargains in breeding stock. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

WHITE PLYMOUTH ROCKS EXCLUSIVE-ly. The largest flock of prize winning birds in the West. At the late Los Angeles show, 1907, we won twenty-three out of a possible twenty-five prizes. We offer extra bargains in our this year's breeders. Will sell to suit purchaser. Eggs \$2.50 per 15; \$10 per 100. A. J. LITTLE, Monrovia, Cal.

S. C. WHITE LEGHORN EGGS FROM THE bred-to-lay Blanchard strain. Large Birds. \$1.00 for 15; \$6.00 per 100; Free city delivery. C. M. GIBBS, R. F. D. No. 4, Los Angeles, Cal. Phone W. 591.

DUCKS.

75C EACH. FOR SALE. 75C EACH. Indian Runner Ducks; Laying ducks one and two years old or young stock to lay in October. CLYDE J. MOSS, Corona, Cal. Star route.

POULTRY FOODS.

ARMOURS BEEF SCRAPS, MEAT MEAL, and Blood Meal for poultry feeding are highest in digestible protein. If your dealer does not handle them write us direct. Circular containing formulae free. THE ARMOUR FERTILIZER WORKS, 738 H. W. Hellman Building, Los Angeles.

FARM LAND.

ROGUE RIVER VALLEY—IF YOU ARE interested in Southern Oregon write for 64-page book, profusely illustrated, describing bountiful resources. No frost damage to fruit in twenty-eight years. Address, Box 41, MEDFORD COMMERCIAL CLUB, Medford, Oregon.

LAND YIELDING LARGEST CROPS known of wheat, oats, alfalfa, sugar beets for \$12 to \$25 an acre. Water supply sure for 500 an acre a year. Easy terms. Fare rebated. No humbug. W. R. GILSON, 411 S. Main St., Los Angeles.

REAL ESTATE WANTED.

WANTED—ORANGE GROVE, ABOUT 5 acres, in bearing, with small house and barn; prefer Los Angeles county. Have three clients looking for such a place. L. M. PRATT & CO., 608 Laughlin Bldg.

TREES.

3000 GOOD, THRIFTY WASHINGTON NAV-EL and Valencia late trees; 1 and 2 years old; at the right price. Free of scale and smut. C. D. HUBBARD, San Fernando, Cal.

LIVE STOCK.

FOR SALE—A first-class Pure Bred Ayrshire bull calf, 5 weeks old, eligible for registration. Address, T. F. LESLIE, Rd. No. 1, Santa Barbara Cal.

IF YOU ARE INTERESTED IN ROGUE RIVER VALLEY write for 64-page book, profusely illustrated, describing bountiful resources. No frost damage to fruit in twenty-eight years. Address, Box 3 MEDFORD COMMERCIAL CLUB, Medford, Oregon.

SURE CURE FOR PILES

ITCHING Piles produce moisture and cause itching. This form, as well as Blind, Bleeding or Protruding Piles are cured by Dr. Bosanko's Pile Remedy. Stops itching and bleeding. Absorbs tumors. 50c a jar at druggists or sent by mail. Treatise free. Write me about your case. DR. BOSANKO, Philada, Pa.

Some orange trees near Highlands which have been rebudded to other varieties of citrus fruits are showing a new disease. It is the formation of gum underneath the bud, which has been inserted. It seems to force the bud out of position and sometimes driven out of the tree. The cause of the trouble is not yet known.

Yucaipa valley lands are now being sold to settlers. Some of these lands are admirably adapted to raising of cherries and plums and other fruits that in most sections of Southern California have not been a complete success.

A couple of fruit thieves were apprehended last week at Whittier, in fact, caught in the act of loading a wagon with fruit from one of the packing houses. One promptly confessed and took his medicine.

A fine of \$5 was given to a party in Tustin for taking three peaches last week; a little expensive, but peaches are high this year. The fellow who buys them at the fruit stand doesn't get off much easier.

The Produce Markets

Los Angeles Markets

Butter.

LOS ANGELES, July 31, 1907.—Butter remains stationary or if anything slightly stronger in tone than last week. There is a liberal receipt of Eastern.

Creamery extra.....@65
Creamery first.....@60
Dairy.....@55
Cooking.....@23 1/2

Cheese.

Cal. Young America, per lb.....19
Hand.....@20
California Anchor.....@17
Cal 3-lb. hand.....@20
Northern fresh.....@16 1/2
Domestic Swiss.....@23
Imported Swiss.....@30 1/2

Eggs and Poultry.

Eggs are quoted as last week with market showing slight weakness. Storage are being drawn on and Eastern are in liberal receipt.

Some of the jobbers are selling a little below the 23-cent quotation for candled eggs. On 'Change 23 1/2 cents was bid for case count eggs, and 26 cents was asked.

The prices given are those of the commission man to the retailer.

Eggs local candled.....@28 1/2
Eggs case count.....@26 1/2

The following are average prices which dealers pay to producers for live weight.

Hens per lb.....@13
Young roosters, per lb.....@15
Fryers.....@17
Broilers per lb.....@17
Old Roosters.....@8
Turkeys.....@17
Geese.....@12
Ducks.....@11
Squabs per doz.....@1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs, from 175 to 200 lbs.....@7 1/2
Prime steers.....@4 1/2
Heifers.....@3 1/2
Calves, per lb.....@4 1/2
Sheep, ewes, per head.....@4.75@5.25
Lambs, per head.....@4.00@4.50
Wethers.....@5.50

Potatoes.

The potato market is uneasy with a tendency to weaker. Many Northern spuds are coming in and it is predicted that more will come owing to uncertainty in Northern market. Quotations are still held however, as last week. It is believed a heavy drop will soon come.

Early Rose.....@1.75@1.85
White.....@1.90@2.00
Local Burbanks.....@2.00
Sweet potatoes per lb.....@.8 1/2

Onions.

Onion market shows no material change and quotations are exactly as last week.

Silverskins per ctn.....@3.00
Australians.....@2.75@3.00
Imperials per sack.....@4.00
Garlic.....@9

Vegetables.

Asparagus is practically out of the market and the little remaining readily commands 14c. Tomatoes are in very heavy receipt and are readily selling at 20 cents per 20-lb. box. Rhubarb is not so plentiful and now commands two cents with probability of going higher.

Asparagus lb.....@14
Artichokes.....@65@80
Beets per doz.....@20
Bell peppers green lb.....@15
Beans wax.....@5@6
Beans Limas.....@8
Cabbage, sack.....@50@75
Chili peppers green.....@15
Cucumbers per 20-lb box.....@15@20
Corn per box.....@60@75
Cauliflower.....@1.25
Carrots per doz.....@20
Egg plant per lb.....@15
Green Onions, doz bunches.....@10@30
Lettuce per crate.....@50
Peas sugar per lb.....@5@7
Okra, per lb.....@20
Rhubarb per box.....@1.50
Radishes per doz.....@15@20
Spinach, per doz.....@10@15
Summer squash crate.....@15
Tomatoes per box.....@20@25
Turnips, doz bunches.....@40
Water Cress per hundred.....@40

Citrus Fruits.

Valencias.....@1.50@2.75
Seedlings.....@1.25@1.50
Grapefruit Seedless.....@2.00@2.50
Grapefruit Seedlings.....@1.25@1.35
Lemons, fancy.....@2.00

Lemons, choice.....@1.25@1.50
Tangerines, halves.....@1.50@1.75

Fresh Fruits.

Apples Red Astrachans box.....@90@115
White Astrachans.....@250
Peaches.....@1.75@2.00
Crab Apples.....@1.00@1.25
Apricots.....@2.25
Blackberries.....@6@8
Cantaloupes crates.....@1.00
Figs black per lb.....@5@6
Figs, white.....@10
Grapes, per 4 bskt crate.....@1.30@1.75
Gooseberries per lb.....@8
Logans.....@7@8
Nectarines.....@1.25
Pears.....@2.25
Peaches per box.....@.75@90
Plums Simonas.....@1.15
Plums Tragedy.....@1.25
Sugar Prunes.....@90
Raspberries.....@8@9
Strawberries.....@4@8
Watermelons per lb.....@1 1/2

Dried Fruits.

The dried fruit market is unsettled owing to the pure food ruling on sulphured fruits. So far as any quotations are made, they are the same as for some time past.

Evap. Apples, fancy per lb.....@8 1/2@10
Apricots.....@20@22
Peaches.....@12 1/2
Pears.....@13

Beans, Dried

Limas per ctn.....@5.30
Pink No. 1.....@3.00
Lady Washington.....@2.90
Small White.....@2.20
Black Eyes.....@5.50@6.00
Garvanzas.....@5.75@6.00
Lentils.....@12 1/2@15

Honey

The prices we give are those at which the jobber sells to the grocer in small lots. The producer should take from this one cent a pound commission and freight to Los Angeles, and there will remain the net returns to him.

Extracted White.....@6
Light Amber.....@5 1/2
Comb, water white, 1-lb. fms.....@12@15
Light Amber.....@10@12

Nuts.

Almonds per lb.....@19@25
Peanuts, Virginia.....@9
Peanuts California.....@6@7
Walnuts, No. 1 S. S.....@14@15

Hay.

Barley, No. 1.....@14.50@16.00
Barley, No. 2.....@11@12
Alfalfa Northern per ton.....@13.00
Alfalfa new local.....@12.50@13.00
Plain oat No. 1 new.....@13@14
Wheat No. 1.....@12@14

Grain.

Purchasing prices f. o. b., Los Angeles are:

Wheat, new, per cwt.....@1.70@1.75
Wheat, Sonora.....@1.52 1/2@1.57 1/2
Barley.....@1.17 1/2@1.22 1/2
Corn, Eastern, sacked.....@1.50

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn.....@1.65
Shorts.....@1.45
Bran.....@1.30
Egyptian corn.....@1.65
Rolled Barley.....@1.40
Feed meal.....@1.70
Kaffir Corn.....@1.65

The city of Pasadena has adopted a system of individual cow records, which are now government inspected. Several cows have been killed, after a tuberculin test, at the instance of the Board of Health.

Orange growers, well satisfied as a whole, with the returns of the year, feel that still better returns might have been had had the car shortage of mid-season not prevented much loss at that time.

Casa Blanca, near Riverside, was up in arms because of theft of oranges by tourists of various grades. It is reported that some even got into the orchards and carried off oranges by the sack full.

The Chino Sugar Factory is now running, using about eight hundred tons of sugar beets per day. The crop will be slightly lighter this year than last, but there will still be plenty of fine beets.

San Francisco Markets

Butter.

SAN FRANCISCO, July 30, 1907.—Butter is still higher and promises further advance.

California extras.....@21
California firsts.....@22
California seconds.....@23
California thirds.....@24
Packing stock.....@22 1/2@23

Cheese.

California Young American fy.....@14
California flats fy.....@14 1/2
Eastern fancy.....@13 1/2

Eggs and Poultry.

Higher quotations and a strong market prevails—the egg market.

Fresh ranch eggs.....@29 1/2
Eggs first per doz.....@25
Eggs seconds per doz.....@19 1/2
Eggs thirds.....@19

The poultry market was very dull yesterday there being heavy supplies and no demand except for the medium grade of stock. The receipts of yesterday were three carloads of Eastern stock and the heavy leftover supply of two carloads of Eastern stock made the market overcrowded. There were, however, no changes in the prices.

Hens, per doz.....@5.00@5.50
Hens large.....@5.50@6.00
Young Roosters.....@6.50@7.00
Old Roosters.....@4.00@4.50
Fryers, per doz.....@4.50@5.50
Broilers, per doz.....@2.50@3.50
Ducks, young.....@4.00@5.00
Geese, per pair.....@1.50@2.00
Turkeys, per lb.....@16@19
Pigeons.....@1.25@1.50

Live Stock.

Steers No. 1.....@7 1/2@8
No. 1 Cows and Heifers.....@6 1/2@7
Hogs, 80 to 200 lbs.....@7 1/2
Hogs 200 to 300 lbs.....@7
Calves, per lb.....@5
Lambs, yearlings.....@6@8 1/2
Wethers, No. 1.....@5 1/2
Ewes, No. 1.....@5

Potatoes

Potatoes are lower and are in a very large receipt. An unsettled condition prevails which is unexpected.

River Burbanks.....@2.25@2.50
River whites.....@50@1.00
Early Rose.....@1.25@1.50

Vegetables.

The market was rather quiet yesterday, there being little demand. Prices were held steady on all but a few varieties. Green corn was in fairly good demand and the price was held steady. The receipts of asparagus and rhubarb were smaller than for some days but the demand being small there was no change in the price. There was little demand for green peppers, but the price remained steady at unchanged figures.

Asparagus.....@7@8
Cucumbers per box.....@30@35
Corn per sack.....@2.00@2.5
Chili peppers green box.....@65@1.00
Bell peppers.....@60
Egg plant.....@10@10 1/2
Green peas per lb.....@1 1/2@2
Squash per box.....@35@40
Peppers Green Bell per box.....@50@75
Rhubarb per box.....@50@75
Tomatoes California.....@75@1.00
String beans.....@3@7
Wax beans.....@7@10
Garlic.....@2@3

Onions.

Onions new reds.....@2.25@2.50
Onions Br Australia per ctn.....@3.25@3.50
Onions new yellow.....@2.50@2.75

Citrus Fruits.

Valencias.....@2.00@4.00
Seedlings.....@1.25@1.50
Grapefruit, seedless.....@1.75@2.00
Limes.....@4.50@5.00

Fresh Fruits.

There is a good demand for some of the varieties of fresh fruits and the prices are advanced in some cases. Watermelons are in good supply at the price made a little wider in range. Cherries of good quality are scarce and will soon be out of the market. Peaches are coming to hand rather slowly and fruit of good quality hard to be found. Strawberries are in good demand and as the receipts are light the price was advanced. The receipts of loganberries and raspberries are exceptionally light and but few dealers have them.

Apples red Astrachans.....@75@100
Apples small stock.....@35@50
Apples, new, per large box.....@75@100
Crab Apples.....@75@100
Apricots, per box.....@1.50@2.00
Apricots, per lb.....@50@75
Blackberries per chest.....@3.00@4.00
Currants, per chest.....@1.00@1.50
Cherries per lb.....@12 1/2@15

1 layer..	50@75
two layers	1.25@1.50
per crate..	1.50@2.00
per chest	8.00@9.00
per crate	1.00@1.50
per box	50@75
per chest	1.00@1.50
per box	1.75@2.00
berries per chest..	7.00@10.00
berries per chest	9.00@10.00
melons per doz.	1.00@3.00

Dried Fruits.

apples (evap.)	8 1/2@8
peaches, per lb, new	22 1/2@27
white	4@5
es, 4 sizes	4@4 1/2
es	10@13
es	8 1/2@11

Beans, Dried

No. 1	5.25@5.40
	2.60@2.75
white	2.50@2.60
white..	2.90@3.00
Eyes..	4.85@5.00
Kidneys..	3.25@3.50
	3.20@3.30

Hops.

new, future delivery, per lb 9@11	
old, fancy	9 1/2@10
choice	7@9
common	5@6

Nuts.

monds, new	17 1/2@18
nuts, California	5 1/2@6 1/4
nuts	12@16

Honey

white comb..	15@17
per	12@15
acted..	5@7 1/2
wax No. 2 per lb.	23@25

Hay.

alfa local	11.00@13.00
old	15@16
at No. 1 new	12.00@16.00

Grain.

The millers have buyers out securing all the desirable wheat within reach and in the interior it is reported they are paying higher prices than quoted figures of the San Francisco market. Supplies of barley are liberal, but strictly choice stock closely held.

No. 1	1.52 1/2@1.55
ay No. 1	1.22 1/2@1.25
small yellow	1.60@1.60
large yellow..	1.50@1.55
white..	1.45@1.47
Red..	1.60@1.75

Feed Stuff.

per ton	19.00@22.00
per bale..	60@90
corn meal per ton..	32@33
cked corn per ton..	33@34.50
Cake Meal per ton..	40.00@41.00
oanut cake, per ton	25.00@26.00
idlings	27.00@30.00

Citrus Market**Citrus Shipments.**

Total shipments of citrus fruits to the this year, 25,979 cars of which were lemons. Same date last year 24,459 of which 3186 were lemons.

NEW YORK, July 29.—The market from 25c to 50c lower. Raining. Green oranges and one lemon sold.

VALENCIAS—	Avg.
net xfy O Gr C A.....	\$6.00
onel xc O Gr C A....	5.45
Is Palmos xc S Mar Gr Pack Co	5.40
E Treador st S Mar Gr P Co...	4.80
Is xfy D M Ft Ex.....	5.95
ssmoynne fy E M Ross....	5.40
ssmoynne ch E M Ross..	4.70
Whittier fy Redlands Junc....	5.70
Whittier ch Redlands Junc....	5.35
Egle Head xfy I L Lyon & Sons	5.30
ffalo Head xc I L Lyon & Sons	4.05
iffower Richardson Fullerton...	5.70
grim Richardson Fullerton....	5.30

SWEETS—	
Whittier fy Redlands Junc.....	4.30
Whittier ch Redlands Junc.....	3.70
ST. MICHAEL—	
ayflower xfy Richardson Fulln	5.25
grim xc Richardson Fullerton..	4.95
ena st Bemchley Ft Co.....	4.75

GRAPEFRUIT HALVES—	
gnat..	2.10
lonel.....	1.20
hittier.....	1.60
WHOLE BOXES—	
hittier.....	2.80
LEMONS—	
ssmoynne fy.....	3.35
ssmoynne o r	2.95

Veterinary Instruments, Black Leg and Anthrax Cure, Milk Fever Outfits... See J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

BOSTON, July 29.—The market is steady and the weather favorable. Four cars sold, five on tracks.

VALENCIAS—	Avg.
Vista Bonita fy Hemet Dist.....	\$4.50
Valla Vista st Sutherland Ft Co.	4.30
Gold Buckle st R H Ea High.....	4.05
Lochinvar xc R H Ea High.....	3.85
Parrot xc S A Ft Ex.....	4.45
Tunnel ch S T Ex Fernando.....	4.75
Urchin st S T Ex Fernando.....	3.90

SWEETS—	
Belt st R H Ea Highland.....	3.60

BLOODS—	
Tunnel ch S T Ex Fernando.....	1.65

LEMONS—	
S. Buckle o r R H Ea Highland..	4.55

ST. MIKES—	
Tunnel ch S T Ex Fernando.....	4.00
Urchin st S T Ex Fernando.....	3.50

ST. LOUIS, July 29.—The market is firm on good stock and weather cool. Five sold, seven on tracks.

VALENCIAS—	Avg.
Whittier xc S T Ex Whittier....	\$4.45
Pico st S T Ex Whittier.....	4.10
Alhambra xc S T Ea Alhambra..	4.55
Don Quixote st S T Ea Alhambra	4.15
Standard st S T Ea Alhambra...	3.50

LEMONS—	
Harbor ch Chas Mohnike.....	3.55
Standard st Chas Mohnike.....	2.80
Club ch S T Ex Sawtelle.....	4.00
Valley st S T Ex Sawtelle.....	3.50
Royal Blue fy Iroy Ft Co.....	2.35
Star xc Iroy Ft Co.....	1.95

CLEVELAND, July 29.—The market is very strong and the weather warm. Three cars sold and five on the tracks.

LEMONS—	
Trail ch S T Ex Lamanda.....	4.60
Canon st S T Ex Lamanda.....	3.65

VALENCIAS—	
Puritan fy S B Ex Rialto.....	5.50
Tally Ho xc S B Ex Rialto.....	5.40
Gold Scepter o r Rialto O Co.....	4.45

ST. MICHAELS—	
Yacht st S B Ex Rialto.....	3.70

SWEETS—	
Yacht st S B Ex Rialto.....	3.70

MIKE HALVES—	
Puritan fy S B Ex Rialto.....	2.50
Tally Ho xc S B Ex Rialto.....	2.15
Gold Scepter (G. F.) Rialto O Co	1.90

PHILADELPHIA, July 29.—The market is very strong. It is raining. Three cars sold.

VALENCIAS—	
Purity fy Tustin Pack Co.....	5.60
Old Oak st Tustin Pack Co.....	5.40
Golden Scepter Rialto O Co.....	4.35
Pointer xc A C G Ex Glendora...	4.85
Hunter st A C G Ex Glendora....	4.95

PITTSBURG, July 29.—The market is weak and the weather cool.

LEMONS—	
Trail ch S T Ex Lamanda.....	3.50
Canon st S T Ex Lamanda.....	3.00

CINCINNATI, July 29.—The market is steady and weather warm. One car on track.

LEMONS—	
Greyhound xc S A Ex San Dimas	3.40
Duck st S A Ex San Dimas.....	3.05

The Pomona Valley Telephone and Telegraph Company originated in the Pomona Farmers' Club. It began actual business a little more than four years ago. It modestly expected to soon have 300 'phones and it soon had 500, a 1000, 1500 and now has over 2000. Many applications for 'phones are on file. It is a real home company, owned and officered by people in Pomona and nearby towns and settlements.—Pomona Times.

The last Pennsylvania Legislature passed a law to provide for the planting and care of shade trees on all the highways of the commonwealth, in town or country. Why should not public agencies plant trees along country roads?

Veterinary Instruments, Black Leg and Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Among Business Men

A HANDY APPLIANCE.

The farmer, especially the irrigation farmer, often has use for a good farm level, but as such an instrument is usually considered so expensive that the farmer casts aside all thought of a purchase of one for his own use. But we are told that the one for some time advertised in the Cultivator for the Palace Hardware Co., of San Francisco, is a reliable instrument at a low price. Every farmer can afford and it aids vastly in irrigation and other features of farm work.

This instrument accompanied as it is by a treatise on, "Terracing, Draining and Ditches" may save many times its cost and be a satisfaction as well.

The level is composed essentially of four parts:

1. The tripod, composed of three wooden legs and iron tripod-head.
2. The adjusting-head and plate. The adjusting-head is screwed on to the tripod and carries three adjusting screws for the adjustment of plate to a perfectly horizontal position.

3. The level is a circular casting, with parallel edges, resting in a recess or seat formed in the plate. The casting carries the sight-tube or telescope made of brass, and a tested Stanley spirit-bubble by which the level is adjusted. These parts are provided with all the essential means for adjusting and correcting the telescope sight, so that the level can be tested and its accuracy proved at any time by the same methods used with other up-to-date engineer's level, or by following the directions accompanying the instrument.

4. The target-rod and target is composed of a graduated telescopic or sliding rod with thumb-screw for securing it in any position, and a target of the regular form, which slides up or down on the rod and is also provided with a thumb-screw for clamping it in any position on the rod.

AGRICULTURAL EXHIBIT IN CHICAGO.

Here is something different, yet practical—a permanent exhibition of things agricultural. The idea is to have on daily free exhibition almost anything from husking mits to manure spreaders. This practical idea has been worked out and is now an assured fact.

The exhibition will be held in the commodious new quarters recently acquired by White's Class Advertising Co., 118 W. Jackson Boulevard, Chicago. This company, of which Mr. Frank B. White is President, occupies the entire top floor of the "Electrical Building," corner Jackson Boulevard and Desplaines Street.

The exhibition hall is 88 feet by 50 feet, in the eastern half of the floor. It is light, airy and very pleasant. Each exhibit will be enclosed by a neat metal railing, and be kept in show condition for daily inspection. A special attendant will have oversight of the articles, and will devote his entire attention to explaining their merits and uses, to visitors and purchasers.

An attractive folder entitled, "Would you like to have your goods on display in Chicago at a very low cost?" will be mailed free by White's Advertising Co., to any one.

Our readers, when in Chicago, are urged to visit this novel exhibition.

NEW NITRATE BEDS IN CHILI.

The Chilean Minister of Finance has declared in the Senate that the rumor current in Europe of the impending exhaustion of the nitrate supply was unfounded. He stated that deposits had been discovered at Antofagasta and Topocilla as rich as the original deposits at Tarapaca.

GUNS AND AMMUNITION.

One of the handsomest catalogues coming to our desk, is that of the Wm. H. Hoge Co., Los Angeles, under the title of "Guns and Ammunition." It's a work of art and full of information. Cultivator readers will find it of value, for we note in the announcement:

"As our mail order business increases our facilities improve and have reached that point where you may do business as readily with us by mail as over the counter. If you do not find just what you want correctly described in our catalogues write us, we may have it in stock or can get it for you quickly. When in a hurry or in doubt as to price send in your money, we will return the change. Full instructions as to terms, remittances and shipments may be found in back of catalogue."

It is well worth writing for and if you mention the Cultivator it will be sent without cost.

COMPARATIVE RAINFALL CHART.

Southern California readers of the Cultivator will find much valuable information in a "Comparative Rainfall Chart for Southern California" issued by the Security Savings Bank, of Los Angeles. This is a regular feature with this bank and which each year after the rainy season publishes the chart which now covers a period of 25 years giving each year of rainfall at Los Angeles and comparative averages in Los Angeles, San Bernardino, Riverside, Orange and San Diego Counties.

One feature of it which is good, it may be had for the asking, but it is none the less valuable, and readers of the Cultivator who will write for it will get good returns on the investment.

SOLD A HUNDRED CATTLE FROM A CULTIVATOR AD.

Tribble Bros., of the Enterprise Jersey Farm, Elk Grove, Cal., formerly carried an ad in the Cultivator columns and at its termination wrote:

Please discontinue our advertisement in the California Cultivator. Send us the bill for amount due.

The results have exceeded our expectations. The liner we inserted sold nearly one hundred cows, heifers and bulls. Most of these were for our neighbors.

Yours truly,
Tribble Bros.

BIRDSSELL HULLERS.

For fifty years the Birdsell clover hullers have been standard in America, and since alfalfa has become a factor the company has met the conditions and is today putting out one of the finest, most reliable machines ever used. They are putting out one of the finest catalogues of clover and alfalfa hullers, also automatic feeders and stackers, which is well worth sending for. In its preface they say:

"On the following pages it is our purpose to illustrate some of the distinctive features of the Birdsell Clover Huller, to which careful attention is invited. These features are found only in the Birdsell machine, and years of practical test, under the most trying conditions, have demonstrated their utility."

It may be secured by writing Birdsell Mfg. Co., South Bend, Ind.

TUTTLE'S ELIXIR.

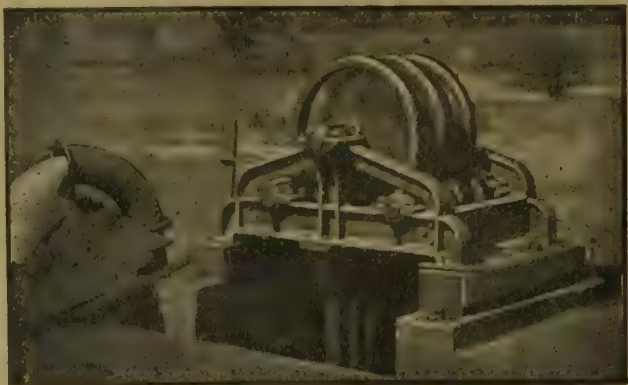
820 MAPLE AVE.
Los Angeles, Cal., Apr. 24th, 1907.
TUTTLE'S ELIXIR CO.

Gentlemen: We have used Tuttle's Elixir in our stables for a long time with satisfactory results and have found it a first-class leg and body wash. We had great success in removing two bad splints from a mare, and used her all the time. It was a bad case but the cure was complete. We believe in TUTTLE'S ELIXIR.

Yours truly,
Moore Bros.

Dealers in HORSES AND MULES

Addison Double Plunger Pump Head



It will pay you to investigate the Addison before purchasing a pump. Send for Catalogue B.

Addison Pump Company

Phones: Home 91; Sunset, Black 1551

Cor. 1st and Cypress Sts., Pomona, Cal.

Smith's Portable Power Sprayer

For 200 Pounds Pressure

1 3/4 H. P. Engine

240 Gallon Tank

Complete Outfit, including Hose and Nozzles, ready for operation.



Powerful, well built, durable and efficient. Write for special circular and prices.

Large Variety of Hand Sprayers in Stock

S. J. Smith Machinery Co. Power and Pumping Plants
212-214 So. Los Angeles St., Los Angeles, Cal.

STEARNS GASOLINE OR DISTILLATE ENGINE

Has many points superior to any other engine.

Hundreds In Use
Every One Satisfactory

Built for California cheap fuel.
For further information, write

STEARNS GAS ENGINE WORKS

1001-3-5 North Main St. Los Angeles, California



A Handy Little Engine

Just the thing to run the feed cutter, the pump, the churn, the grinder, or anything on the ranch. It's well named

The Little Wonder

Write or call on

Wm. Gregory

602 No. Main St. Los Angeles, Cal.

National Wood Pipe Company

Woodward Pat. Machine Banded Pipe, Wheeler Pat. Continuous Stave Pipe, Bored Wood Water Pipe

Made from California Redwood **WOOD PIPE** Or Selected Puget Sound Yellow Pine

Puget Sound Office: Olympia, Washington

San Francisco Office: 288 Market St.

Los Angeles Office: Cor. First and Spring Sts.

Salt Lake City, Utah: 207 Dooly Block

▲ Booklet, "The Whole Story About Wood Pipe," mailed free upon request.

Milking Done Perfectly

by the

Burrell-Lawrence-Kennedy Machine



All the people who use these machines are **thoroughly satisfied.**

This machine has solved the milking problem. Write for full particulars.

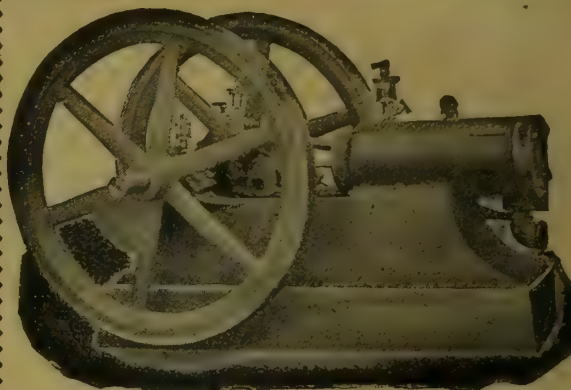
We also handle everything for Creamery Dairy and Cheese Factory. Write for Our New Price List.

Baker & Hamilton

San Francisco
Los Angeles
Sacramento

If you have over 40 cows, you need a **Burrell-Lawrence-Kennedy Machine**
MORROW & SHELTON, Portland, Ore., Agents for Oregon, Washington and Idaho

Samson Gasoline and Distillate Engines



Are Strong and Durable

Fully Guaranteed in every particular

We make complete Irrigation Outfits

Samson Centrifugal Pumps Are the Best.

Enlargement of our factory makes it possible for us to make prompt delivery.

Send for our new catalogue and estimates.

Samson Iron Works

Office and Factory, 1100 to 1198 Aurora St., Stockton, Cal.

Branch: 920 J St., Fresno

553 S. Los Angeles St. Los Angeles



The Callahan Oil Engines

The Highest Grade Made. Won First Prizes at Sacramento and Porterville Fairs. Large stock always on hand. Send for Pump and Engine Catalogue.

G. W. Price Pump Co.

21-31 Jessie St., San Francisco

Branches — Sacramento, Visalia, Porterville

This Gun Has a Record of One Hundred and Fifty Gophers Without a Miss



Concussion Can't Miss

Patented April 21, 1906

"SURE POP" CONCUSSION GUN

Price \$1.00 Post Paid
6 for \$5.00, 12 for \$9.00
Express Prepaid

Weight, 10 ounces. Length, 7 inches. Made of brass and will not rust. Shoots 38 Central Fire Blank Pistol Cartridges. Simple construction and a rapid exterminator of Gophers, Moles and Small Animals. Send for circular. Order a sample today.

John D. Keller, Manufacturer

327-347 W. Santa Clara St.

San Jose, Cal.

500,000 FEET OF WATER PIPE

All sizes, Galvanized and Black, slightly damaged.

Special Price While It Lasts. Phone or write.

ADAMS PIPE CO., 603 Grant Bldg., Los Angeles, Cal. Phones: Main 1917, Home 1917

When writing advertisers, mention Cultivator.

California Cultivator

Los Angeles

August 8, 1907

San Francisco

Resources of Colusa County

COLUSA county has principally been known for its crops of wheat and barley; secondly, enormous ranches. Think, if you can, of a single farm (ranch) of ten thousand acres; then add three more such farms to it, and even then you are four thousand acres shy of the total of one ranch in this locality,—namely, the Glenn ranch, which comprised 44,000 acres. The Boggs ranch, with 10,500 acres and the Packer ranch with 7000 acres are other samples. As some of these ranches gradually come upon the market for subdivision, the poor man gets his chance. The man with small capital can buy ten, twenty or forty acres and be independent for life.

Colusa county, about 70 miles north of Sacramento and about 140 north of San Francisco, is favored with a rich soil that will grow almost anything—luscious grapes, splendid oranges, lemons, figs, prunes, olives, almonds, berries, pears and apples—why, it would be tedious to enumerate them all. Colusa oranges ripen long before those in the southern part of California are ready for market. Being first in the market, they command fancy prices. At the San Francisco Midwinter Fair they took first prize against all comers.

Ask any one familiar with California what Colusa county is known for, and he will say: Cereals, Colusa sandstone and mineral water. But in a few more years the answer will be: Prunes, grapes and oranges.

In some tracts they wanted to find out how deep this splendid alluvial soil ran, so they bored as far as forty feet, and still found it. They bored twenty more feet and had to give it up, for it was still rich soil. One grape raiser near the town of Williams in this county

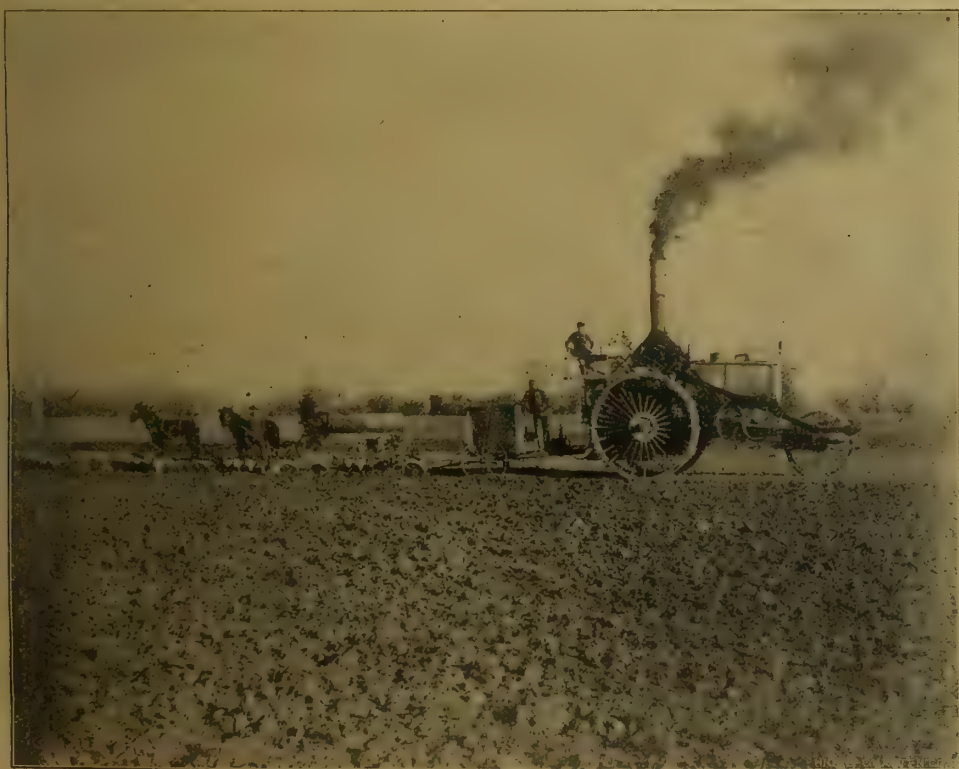


Harvesting Near Williams, Colusa County

just sold his grapes at \$65 for the Muscats and \$95 for the Sultanas per acre. He has only eighty acres, but pity him not, for he is putting another tract in grapes. A rancher near Colusa sold his pears from one acre for over \$400. Another nearby sold his blackberries at over \$400 per acre, and this is only his second year. And what is such land obtainable for, you will ask. Knowing that a six or seven per cent investment is considered something mighty good, it seems almost cruel to blandly inform you that just such land—land that will produce from \$50 to \$250 per acre per year—can be bought at from \$40 to \$100 an acre. And \$250 maximum is putting it very modestly, or nearly twice that sum is nearer correct in many instances.

All through Colusa county flows the beautiful Sacramento river, useful as well as ornamental, for two lines of steamers to San Francisco via Sacramento are kept busy transporting the wealth our soil produces and bringing hither from the two cities named the thousand and one manufactured products and luxuries that we have to buy from them.

Figs grow so abundantly here that people scarcely eat them. I have seen them swept off the sidewalks, just like so much worthless dirt. Oranges in your front yard and walnuts along the towns' roads in such bewildering abundance that it makes one ashamed to speak of it for fear of being accused by the cynic of bragging. We see these things, but when we put the facts on paper can hardly believe that our senses do not mislead us. We see them so much that we hardly give them a thought. And so it is with the roses and other flowers, which grow here in such profusion and in spite of people. A new-comer will pick bouquets and adorn his rooms; after he is here a while he gets so used to these glorious, blessed gifts from the lavish hand of the Creator that he too becomes calloused to his advantages. —John Hartog, Sec. Colusa Chamber of Commerce.

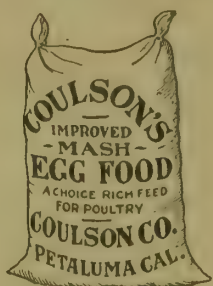


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Makes More Eggs



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First, see that your hens are healthy when they start to molt. At this time of the year, after a heavy laying season, they are apt not to be at their best, and a little of *Coulson's No. 3 Condition Powder* will put new life into them, and enable them to thoroughly digest and use the good food which they specially need.

At the same time, they must have the best food you can give them from the commencement of the molt. You will find *Coulson's Improved Mash Egg Food* is just what is required. It is strong in protein, due to the blood, meat, bone and oil cake meals which it contains.

Put Up in 90-lb. Sacks Directions in Each Sack

Your hens will not need to eat so much of the concentrated food to obtain the egg-making and feather-producing materials they need, thus saving their digestive organs and your pocket at the same time.

Coulson's Improved Mash Egg Food is therefore beneficial in two ways. Less feed is required and the hen gets just what she needs, with the result of a quicker molt and more eggs.

First cost is not everything, but even in this respect, **COULSON'S IMPROVED MASH EGG FOOD** shows to advantage. A 90-lb. sack will make a meal for 1250 hens. This is just over 2 lbs. a hen a month. Think how many eggs does it take to pay for this feed? In November, only 1 egg, and not more than 2 on the average.

We know what this feed will do by results on our own poultry ranch, as well as from testimonials from pleased customers all over California. What it does for others, it will do for you.

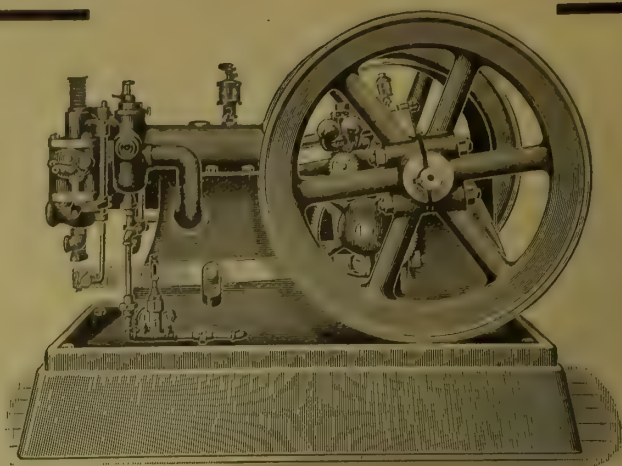
Give a trial order to your dealer; if he does not keep it, write to us, and we will either advise you where you can get it locally, or supply you direct.

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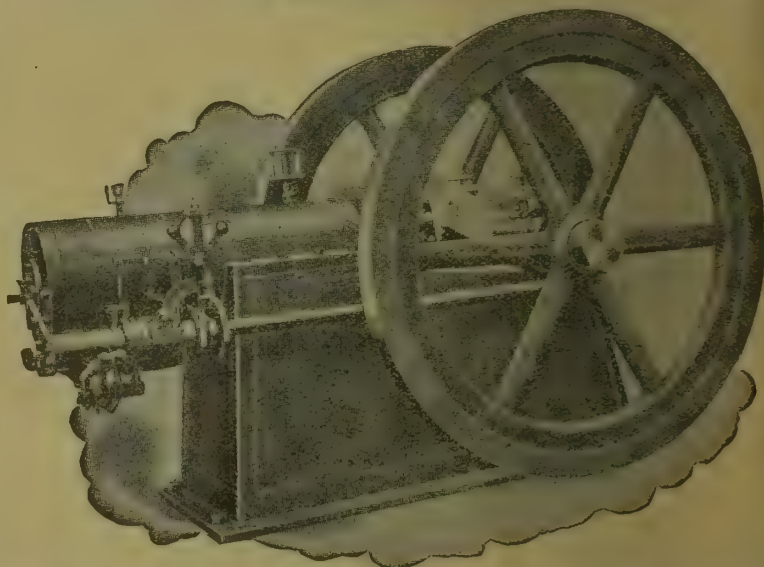
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Los Angeles, Cal., July 8, 1907.

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We have recently installed and now have in operation on our ranch near Anaheim a 60-horse-power Columbus Distillate Engine. This engine is belted up to a No. 6-2 stage pump, in a 90-foot pit, and is running along on an apparently easy load and pumping by actual measurement over 150 inches of water. Our fuel consumption has averaged so far four gallons per hour.

To the man who wants plenty of water, little trouble and economical engine, and one that develops the full horse power, we can cheerfully recommend the Columbus Engine.

We have had experience with high speed so-called big horse power engines, and know whereof we speak when we recommend the Columbus Engine to the public, knowing that it is a kind you can depend upon, free from all trappy devices, simple to operate and economical.

The writer has run a 10-horse Columbus Engine at Tropico, for the past four years, and can vouch personally for the above statement.

Trusting that this information will be a benefit to those interested, we beg to remain,

Yours very truly,
THE ANAHEIM PRODUCE CO.,
By E. B. Barry, Manager.

Greenleaf-Compton Co.

121 South Los Angeles St.

Los Angeles Cal.

California Cultivator

V. XXIX—No 6

Los Angeles, California, Thursday, August 8, 1907

Subscription \$1 a Year

Nurserymen and Boards of Horticulture

A Paper Read by John Isaac Before the Pacific Coast Nurserymen at Salem, Oregon. The Interests of Both Identical

It is said that eternal vigilance is the price of liberty and the truth of this is recognized instinctively, as is evidenced by the disposition of all to resist at first whatever appears like innovation, especially if such innovation in any way appears to affect us in our business or our personal rights. This disposition to resist, has been mildly termed conservatism and where it is carried too far it is known as "knocking." It is sometimes a bar to progress, but more often a check on recklessness. All good systems have had to stand the test of opposition from conservatism, until they have proven themselves of value, when they have been adopted and we, who live under improved systems and appreciate them, wonder at our forefathers for their opposition. The test of opposition is a good one, for the good will prevail in spite of it, while the bad succumbs and goes down before the test.

Coming Together.

So much by the way of introduction. I will now come to my subject and touch upon the opposition which has been felt, if not openly expressed, between the nurseryman and the tree inspector, but which has now, fortunately, reached a stage where the two are coming together and realizing that they are working for the same purpose and that, instead of being opponents, they are allies working to the same end—the introduction of healthy and clean stock. The system of tree inspection originated in my State and was forced upon us by necessity.

Welcome Guests.

In the early history of California a nursery stock was brought in from all parts without question. We possess a varied climate, where the tropical and the boreal meet. In consequence, vegetation was brought to us from the four quarters of the globe, and with it came its insect adherents. We have a glorious climate, and it was readily claimed that in it all the good things would flourish, all the bad things would perish, and that it was not possible that any injurious insect could or could exist in a climate that was good for all else. And we are still regaled with the same fairy stories. We began thus the importation of pests, all bad, some of them not very serious, but we soon found among them the San Jose scale. That was a real pest and in a short time we were doing as they are doing in the East now, destroying our trees to get rid of the bug, but it wouldn't stay got rid of. We looked around for remedies and finally struck upon the salt, sulphur and lime wash, and that helped some. We now have a native parasite that takes care of it for us, but we still have it, and always shall, and it works in perfect harmony with the climate.

It Up and Took Notice.

The next importation of consequence was the cottony-cushion scale, and when this came we sat up and began to take notice. It was an insignificant looking bug, but it was good and it increased and multiplied, even if it didn't replenish the earth, and that without number. In a short time our orange orchards were a mass of scales. They were so thick that there was no room on the trees for fruit, and many growers who started to grow oranges, when they found that they were only producing a crop of nasty bugs, cut out their orchards and burned up the trees. But this did not get rid of the scourge for the scale took to the wild vegetation, and it was evident that, to

get rid of it by fire, it would be necessary to burn up the whole country.

Origin of Fumigation.

We tried all sorts of sprays and washes, and out of the experiments made, came the present system of fumigation. But upon all artificial attempts to get rid of it, the pest seemed to thrive, and if the bug had any sense of humor, it must have laughed at our futile attempts to banish it. We finally overcame it with its natural enemy. But that is another story.

Horticultural Quarantine Introduced.

It was these experiences that gave rise to our system of horticultural quarantine. It was something like locking the stable door after the horse was stolen, but we expected to get another horse and intended to take care of it. There were two problems before us: to get rid of what pests we had, or, at least, to reduce them to a condition of innocuous desuetude, and to prevent any others from obtaining an entrance.

With these ends in view, our present system



John Isaac

was inaugurated and after many amendments and corrections, we have a fairly good system although it is still open to improvement.

State Board.

The necessity for some action looking to the protection of the orchardists, if California was to grow fruit, was thus forced upon us, and, recognizing the importance of the fruit industry to the State, the legislature passed a law organizing a State Board of Horticulture. The State was divided into districts and a member was appointed from each district. This was all right, as far as it went, but nine men working without compensation could not be expected, however, patriotic, to look after the horticultural interests of the whole State, and the next move was the organization of the County Boards of Horticulture, whose duty it is to look out for the individual counties.

A rigid system of inspection was provided for, by which all stock entering the State, or passing

from one county to another, was to be thoroughly investigated before it was allowed to pass; the work of inspecting in the counties being left to the county officers while, at the ports of entry, the State board stationed inspectors whose duty it was to look after everything arriving by sea. By arrangements with the transportation companies the horticultural inspectors of each county were notified of the arrival by nursery stock from outside points by the local agents, while the postmaster general instructed the postmasters of the State to give notice of any plants arriving from foreign countries by mail. The customs house officers also had instructions to pass no plants until they had been certified to by the State horticultural quarantine officer. So the quarantine line was as close as it could be reasonably made.

Kicks Coming Both Ways.

Of course, such restrictions bore heavily upon some, and at first it appears that they had been made in the interests of some particular class, and, in order to show how mistaken people may be, I will state that about a year since, I received a letter from a prominent California nurseryman, complaining that our inspection laws were bearing hard on him, and it was evident that they were made to injure our local nurserymen and were wholly in the interest of the tree importers. The same day I received a complaint from a prominent Eastern entomologist, voicing the feelings of the shippers of the stock from his State, complaining that our laws were evidently made to bar out Eastern stock, and to give our local men a monopoly of the trade. Of course, both were wrong. Our horticultural laws are maintained wholly for the purpose of protecting what is today the greatest industry of our State, and if it bears hard upon anyone, it is incidental and not intentional.

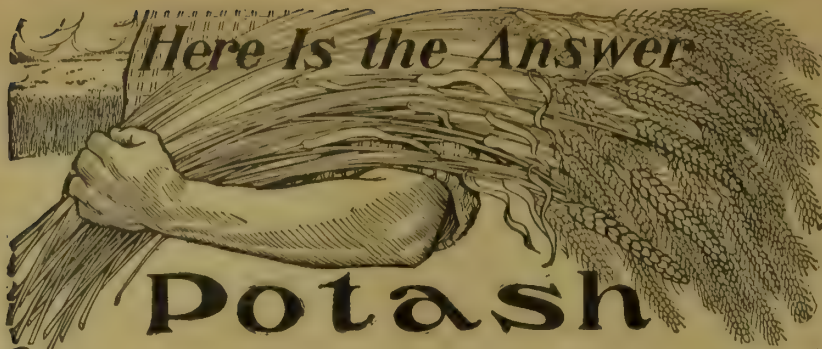
Three Classes.

We place nursery stock in three classes. First, that which is infested with pests or diseases which are new to our State. Any stock of this class is held up. If it is worth the trouble, the owner can have it returned at his own expense, but it can not be allowed to enter. Second, stock which is infested with pests which are already established in the State. This stock is fumigated or treated, and held until the inspector is certain that it is clean and it is then released. The reason why it is required that such stock shall be clean before it is allowed to pass is that the orchardists are required by law to spray, fumigate or take other means to keep their trees clean, and such being the case, it would be notoriously unjust to allow infested stock to be introduced and sent to them or into their section. The third class—clean stock—is, of course, passed without question.

Certificates.

Now, a few words on the matter of certificates of inspection. Many of the States provide for an inspection to be made of all nurseries at certain seasons of the year, usually in June. The inspector looks over the stock, and issues a blank certificate good for a whole year, stating the facts in the case, and it is expected that this shall be accepted by other States, and that upon it all stock shall be admitted without further question. Such certificates are not recognized in California. Our inspectors are supposed to do their own

Concluded on Page 130



is the most important element in a fertilizer whose object is to increase the grain crop.

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Deciduous Fruit Culture

CHINESE TABLE GRAPES.

IN CERTAIN parts of China, grapes are raised extensively for eating fresh, preserving, drying and for the manufacture of unfermented wine.

The Province of Shan-si, 200 miles west of Peking, in the interior, has long been famous for the excellence of the product of its vines, a fact that is noted in the travels of Marco Polo. The attention of the station was called to these grapes by Mr. E. R. Lyman and through his aid we have received a very interesting account of the principal varieties there and of the Chinese methods of preserving them.

This information was kindly furnished by Mr. J. L. Stoward who is thoroughly familiar with the facts and who has taken great pains in sending descriptions.

The following account is extracted from Mr. Stoward's interesting letter:

Grape No. 1.—Black, large, compact bunches of sharp-pointed, elongated berries of brisk, racy flavor and very sweet to eat fresh. The fruit ripens in August. The appearance of this grape, judging by the excellent drawing sent, is very striking and resembles some of the Persian varieties, which have been introduced into California.

Grape No. 2.—Black, large bunches of loosely hanging, slightly ellipsoidal berries. As sour as a lemon when fresh but becoming sweet without the addition of sugar when cooked. Used for making grape-juice. This variety is called "Ling dan"—Separate Ball, on account of the long pedicels, which make every berry hang separately.

Grape No. 3.—Red, compact bunches often weighing 9 and ten lbs., of large, round berries often more than one inch in diameter. This variety ripens by the first of September and is kept in perfect condition until long after the Fourth of July of the following year. It constitutes the main part of the grape crop of Shan-si.

Grape No. 4.—Red, loose bunches of grapes of almost the size and shape of a finger. Said to resemble Flame Tokay in texture but to be of better flavor and thinner skin. This variety is much liked by the wealthy Chinese who buy up the crop at from 50 to 100 cash per catty when other varieties are bringing only 14 and 15 cash for the same amount. Raisins are made from this grape and smoked after drying.

The grapes, especially Nos. 3 and 4, would be interesting additions to the already long lists of varieties introduced into California. Mr. Stoward has kindly promised to supply the Station with cuttings which will enable us to determine of what value these striking varieties are for our conditions.

The fact that grape No. 3 which, judging by the description, somewhat resembles Flame Tokay in appearance, is kept nearly twelve months fresh, in good condition, is very interesting. Mr. Stoward went to considerable trouble to find out just the method used to accomplish this result.

The grapes are kept in above-ground cellars with walls 3 feet thick, built of boulders. The temperature is kept cool and even and the air as dry as is possible without causing shrivelling by evaporation. The cellar has only one opening—the door—which is closed by a mat of millet straw one foot thick. The grapes are

laid in thin layers on wilted lotu leaves placed on stone shelves and are covered with the same kind of leaves. The grapes intended for early sales are wrapped in the same leaves and packed in willow baskets which are piled in the center of the cellar.

The principle of these storage cellars is identical with that of the houses used in Europe. The essential points are a cool even temperature between 40 and 50 degrees Fahr. and moisture enough in the air to prevent undue evaporation of the juice through the skins, but not enough to keep the surfaces damp. Shrivelling and mold, the two principal enemies of stored fruit, are thus prevented.

How much of the keeping quality exhibited by these grapes depends on the careful handling and how much on the essential resistance of the fruit remains to be tested.

The cuttings when they arrive will be grafted on old vines in order to obtain enough for distribution in various sections for trial.—Frederic T. Bioletti, Berkeley.

PECAN CULTURE.

It is astonishing how few people there are who know what a pecan nut is, and still more surprising to realize that there are very few people who recognize differences in quality or varieties and who really know that there is as much difference in the flavor of pecans as there is in the flavor of different varieties of apples. The wild seedlings may be thick shelled, bitter and astringent, whereas the cultivated forms are thin-shelled, rich and delicate in texture and flavor. For many years the markets of the East have received and consumed considerable quantities of the seedling nuts of Florida, Louisiana, Mississippi, Texas and other regions where the pecan is indigenous. These nuts range from good to very indifferent and poor. They are present the same polished brown exterior in the grocer's window, but vary greatly in the quality of their contents.

The United States is a good deal of a nut-eating country. Something over five million dollars' worth of nuts are imported annually. On the other hand, we only export about \$30,000 worth. This export quantity is largely made up of English walnuts grown on the Pacific Coast and perhaps a few pecans from the South. It is interesting to note that as the pecan has become known in the East its consumption has increased, and with increasing consumption have come also higher prices. Less than 20 years ago ordinary nuts could be bought for five or six cents a pound. These nuts, which were then used by nurserymen for growing seedling stocks, now bring from eight to twelve cents a pound. There is still greater advance in the price of the really edible varieties. When formerly they were sold for ten cents, they now bring twenty and thirty cents, while the propagated varieties sell up to fifty and sixty cents, when a private and personal trade is established. There is no question at all that the pecan is one of the coming nuts, and is bound to be a leader among the orchard fruits of the future.

As a fruit it possesses the important quality of being nonperishable within reasonable limits. Cold storage is not a factor and transportation facilities are of relatively small importance.

This tree, which belongs to the wal-nut family and is known technically as the name of *Carya, olivaeformis*, more lately, *Nicoria pecan*, has a wide distribution in the United States. Naturally, it is distributed more abundantly on the rich alluvial bottoms of the streams than the higher lands. The pecan runs far north as Southern Iowa and as far west as the Colorado river, in Texas, extending southerly to Central Georgia. Roughly speaking, we may say that it occupies practically the same area as the cotton plant, although it can be grown farther north. John Craig, Cornell University.

CROWN GALL.

Most of our fruit growers are familiar with the orchard disease which is known as crown gall. This occurs on nearly all of our orchard trees and is most commonly found as a bumpy and warty growth around the crown of the tree just below the surface of the ground. But these growths may occur at any point on the roots and sometimes upon the trunks above ground.

Every experienced orchard man knows of the destructive nature of this disease. If a tree is badly infected when planted, it is usually the case that it does not come into full bearing, but simply makes a slow, stunted growth and usually does not live more than seven years from the time of planting.

There is no practical remedy for such diseased trees and, moreover, it is the worst kind of folly to allow them to be planted, as numerous observations by many people go to show that one diseased tree in an orchard serves as a source of infection for many healthy trees. This being the case, proper inspection of nursery stock cannot be too strongly insisted upon. It is difficult enough, as it is, to get trees to live where they have been shipped long distances and then exposed to our drying air and intense sunshine upon being planted. But if we find, in a year or two, that a portion of the trees are infected with this disease, the loss is all the harder to bear. But, strange to say, each spring the inspectors have more or less trouble with a few people who do not wish to have their stock inspected.

This disease has never been considered injurious to apple trees in the Eastern States; and recently one of the workers of the Department of Agriculture has issued a bulletin describing the results of very careful experiments which were conducted near the vicinity of St. Louis. These results go to show that under the conditions which exist there, the disease does practically no harm. All Eastern men are, of course, familiar with these experiments and, consequently, think that our inspection is not only foolish, but very unjust to them.

The workers at the Colorado Agricultural College have been severely censured by some of these firms for the moral support they have given some of the county inspectors. Nevertheless, we must look out for our own interests, and growers should not only insist upon a thorough inspection, but should try, as far as possible, to buy their trees of nurseries which, at least, try to eradicate this disease.—W. Paddock, Colorado Agricultural College.

VERY WELL PLEASED.

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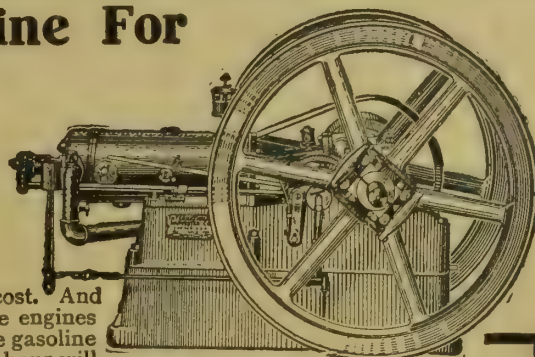
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are that kind, and for that reason are especially adapted to pumping for irrigation. A small boy can look after an I. H. C. Engine, and run it as successfully and economically as anyone. Look it over once or twice is all that's necessary in a day's run.

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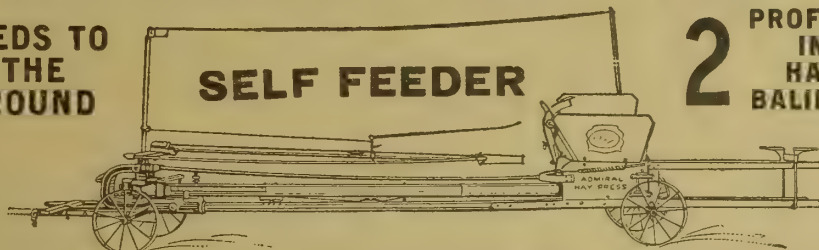
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caseine web catches a third to half the cream. You stand that loss just as long as you use pans or cans for they haven't enough skimming force to take out all the cream. But, just the minute you commence using a Sharples Dairy Tubular Cream Separator, you stop that loss.

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Is making the very best strains of blood fresh from the island of Jersey a specialty.
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Live Stock and Dairy

MORE SILOS.

AS MEN are always seeking to do better and better work, we therefore find them building silos of more durable materials than wood. The plastered and lath silo, the brick lined, the concrete and the brick and stone silo cover the varieties in use. The stave silo is an expedient of the farmer that moved so often that whenever a covered wagon came along the road, the chickens ran to it, dropped down on their backs, held up their legs and waited to have them tied to be carried to the next stopping place.

Wooden Silo Brick Lined.

This is, undoubtedly, one of the best of the wooden forms, wherever bricks can be purchased at a reasonable price. The foundation is the same as in the wooden silo. Sills are set and secured the same, except that the sills are placed enough forward to allow the brick lining to rest directly on the stone or brick foundations. The studding is nailed to the sills then on both sides of them are nailed the three-inch stuff; this is fence boards six inches and sixteen feet long sawed through the lengths. These boards go round and round and as the hoops and on them depends the strength of the silo. Be careful that they are nailed twice to each studding.

Lining.

The bricks are laid flat usually, as this makes them stronger, sometimes however, they are laid on their edges. It is well to drive an iron spike into the studding and embedding it into the mortar on every fourth row of brick. The mortar between the bricks should not be over half an inch thick and plenty should be used back of the bricks against the lining to fill up the spaces solid. It is possible to make the inner face of the brick smooth enough not to need cementing, but it is hardly likely that ordinary California brick will be smooth enough to make a good inner wall without washing them down with cement. In estimating the cost: if bricks are \$7.00 a thousand then \$252 will buy the brick to put in flat or if they are on edge the cost will be \$194, in a silo of twenty feet in diameter and thirty feet deep.

Lathed and Plastered Silo.

This silo is cheaper and usually goes by the name of the inventor, Mr. Gurler, a dairyman of note in Illinois. The first silo of this type built by Mr. Gurler is now ten years old and since then he has added half a dozen more to the original one. The foundations are made on the same plan as the other silos. The two by four studding are set up every foot, three-eighths sheeting is carried around the inside and nailed firmly to the studding. The outside hoops are six-inch fence boards nailed firmly to place on the outside of the studding every three feet for the first half of the silo and then every four feet; a second six-inch board is nailed over the first one to make it a heavier hoop and to break the joints.

Plaster Lining.

The three-eighths sheeting is rip sawed into five strips with a beveled edge. These are the Gurler laths and are, on the narrow side not quite

three-fourths of an inch, while the wider edge is a little less than one and a half inches. These laths are fourteen or sixteen feet long and are bent around the inside of the silo with the narrow surface to the wall. They are firmly nailed to the studding through the sheeting leaving an inch and three quarters space between the outer edge. The walls are cemented with a mixture of two parts of cement to four of sand. This is for an indoor structure, where the silo is outdoors, by running the outside hoops of fencing boards around in diagonally form, three each direction and firmly nailing them where they cross the silo is strong enough to stand high winds.

Brick Silo.

The foundations are of brick or stone; a five-eighths-inch round of iron

is usually embedded close to the ground to add strength. These rods are divided into four lengths and have the ends turned outwardly for the last few inches. These ends are allowed to come between the outside bricks and firmly bind the mass together. The walls are laid up carefully with water-soaked brick; the first half of the silo the wall should be at least three wide, while four is better, half way up the wall one brick is taken off on the outside making the upper walls lighter. Every third row the

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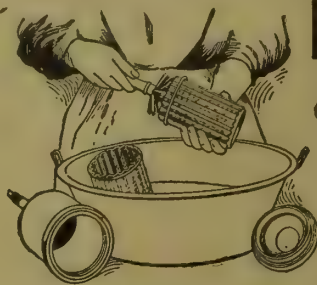


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(It's an exact copy of a photograph.) You can't expect pure cream and good butter from a dirty separator bowl, and the construction of some bowls makes it next to impossible to clean them. Others have from 30 to 40 inside pieces of all sorts and shapes, and to get them all actually clean exhausts both time and patience and makes more work than the pans and crocks. Then some bowls are long and narrow not unlike a shot-gun barrel, but you can't clean them with a ramrod because one end is closed, so you swab them out with a rag on the end of a stick, and if you're not mighty careful the milk and water squirt out all over you. Now, please look again at the picture. While the improved

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yet simplicity has not been sacrificed to clean skimming as in other makes. The picture proves it. Only four parts to the whole bowl—two simple inside cups, the smooth steel bowl and the cover. Notice that the bowl and cups are wide enough to be easily cleaned inside, and in the cover there are no crooked tubes or obstructions of any kind to catch and hold dirt.

A brush is the best and most sanitary means of cleaning dairy utensils, and so with every U. S. Separator we furnish a strong, stiff-bristled brush that cleans all dirt and "skum" out of the bowl. It's no job at all to clean a U. S. bowl—three to five minutes' work does it easily and thoroughly.

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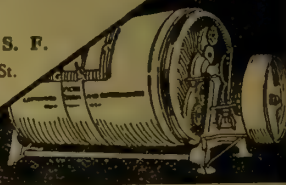
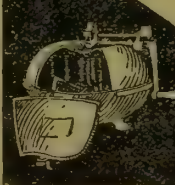
if they are properly handled and if
the right kind of apparatus is used.

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Prosperity go hand in hand. DE LAVAL APPARATUS
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Our Cone Cooler will cool to within two degrees temperature of water. Eliminates all bad odors and improves quality of cream and butter.

Send \$1.75 for sample.

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50 "	1.40 "	2.10 "
100 "	1.35 "	2.00 "

These Coolers are durable, practical and easy to clean and reasonable price. You cannot afford to be without one.

We carry a large stock of "Star" Copper Coolers at prices from \$15.00 up.

Write us for prices on Pasteurizers (we have them in stock), Ripeners, Cream Separators, Engines and Boilers, Milking Machines. We supply anything used in a Dairy, Creamery or Cheese Factory.

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Cow Milking Machines



Our Milkers operated by Foot Power are very simple, durable, easy to operate and will milk from 20 to 26 cows per hour. If you are milking cows, write us for circulars and prices, or call and we will arrange to show you our machines in **actual operation**. Our milking machines have been in daily use for **ten months** in Southern California—and are **still in use**.

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all is bound by turning the bricks and in. Double iron ties should be placed at the top and bottom of the first three doors. After the walls are up the inside can be protected with a heavy coat of cement, well white-washed to keep the acids of the silage from acting directly on the cement. Some people dip the ends and sides of the bricks that are to be exposed to the silage into thick, hot coal tar before placing in the wall. The doors of the brick silo will be described when the stone silo is taken up, for they are nearly the same in form. This coal tarring seems like extra work, but then a farmer is not usually lazy. He is not like the man named John Hole that wrote his name as J. when punched a hole in the paper to save labor.

Stone Silo.

The stone silo is often built from the stone of the farm, often a rocky ledge can be taken out of a field to build the silo and clear the field at the same time. The Italians and Irish are the best masons we have in California. They alone will carefully fit in the stones, as they seem to have the trained eye that sees when a stone will fit without trying each one to the place. I cannot imagine anything more exasperating than to see a man pick up stone after stone and lay them up, take them down and up and down, before he fits them. The wall underground should not be less than two feet thick and laid in cement. The larger stones must have the spaces between them carefully filled in with smaller stones as the walls ascends it is narrowed to eigh-

teen inches, twelve or fifteen feet above the surface. Good lime mortar may be used in the upper portion instead of cement.

Inside.

The cement for the inside is made heavy, using one part of cement to one or one and half parts of sand. This cement must be well packed on with a trowel, not merely smoothed and air bubbles left in it. It needs to be as firm as a floor. A heavy coating of white wash comes next to keep out the acids of the silage. The doors are arranged in the walls with an iron rod above each one. This is of five-eighths-inch rounds and usually twelve feet long. The ends turned off at right angles and like the rod itself firmly set into the wall. The door frames are made of lumber four by four bolted together with a space between them. One frame being flush with the inside; the other on the outside edge. The spaces between them is filled firmly with mortar after they have been placed with iron bolts run into the mortar between the stones to bind them in place.

Doors.

The stops for the doors are fitted in and around the doors swung into place. Doors are made from six-inch tongued and grooved stuff put on at right angles, screwed to the cross boards. Thick roofing paper is tacked to the edges to make the doors fit tightly. Then plastering of adobe mud is added as a further sealing. The addition of a pound of cheap glycerine to the water used in making the mud will prevent the adobe from flaking off when dry. Flat rocks are best for the walls. Where boulders are the only rock

available, it is best to build a concrete silo and use the boulders to furnish rubble for the walls. I ask your pardon for the undue length of this paper. Next week we will finish with the silos by describing the concrete one.

CALIFORNIA LIVE STOCK BREEDERS' MEETING.

The Cultivator has the following from Secretary Major of the California Live Stock Breeders' Association:

"The California Live Stock Breeders' Association will hold its fourth annual meeting in Sacramento, Wednesday evening, September 11th, at eight o'clock. Thursday afternoon, September 12th, at five o'clock, will occur the annual business meeting of the association when the following amendments to the By Laws, which have been proposed, will be considered:

Meetings: The annual meeting of this association shall be held at such time and place as shall be decided upon by the Board of Directors. Dues: The annual dues of this association shall be one dollar.

The committee is sparing no effort in preparing a splendid program and there is every indication that this meeting will be the best that has yet been held. We hope you will be there for every one interested in live stock should be present.

There are two extremes in caring for the cow, negligence and over-pampering. Avoid both.

If the butter is too soft, it has probably been churned at too high a temperature.

For practical cow milking machine see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles.

WHY NOT CALIFORNIA TOO.

The Committee on Special prizes at fairs of the Holstein-Friesian Association of America, announces that, to date, arrangements as follows have been made:

National Dairy Show, Chicago, Ill., Oct. 10 to 19, \$463 in special prizes. Classification to be soon announced.

Spokane, Washington Inter State Fair, Silver cup, for best exhibit of this breed.

Also a large number of other State Fairs, but none for California. California is worth it for it has some of the finest Holsteins ever.

The origin of the Jersey is a subject of interest, but there is a very great divergence of views on the subject. There appears, however, to be very little room for doubt that the breed is graded up from a cross of Brittany and Normandy cattle. It is true that there are many points of great dissimilarity, but it is well recognized that the characteristics of any cross or breed can be "bred out" by careful and scientific selection. Such selection is and has been for generations past systematically practiced on the island.

No dairyman ever went hungry, or failed of having cream in his morning's coffee. Farms have been paid for, and good farm houses erected, children educated and married off, and the sons-in-law started in business. The gospel has been preached, the parson paid, and time taken to do one's duty as a citizen.

The tester and the milk scale mark the parting of the cow paths. They show which leads to prosperity and which to the poor house.

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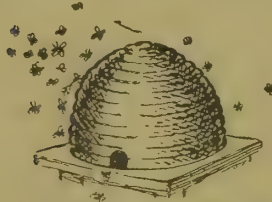
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Southern Pacific

The Ornamental Garden

THE PETUNIA.

PETUNIA is a genus of dwarf perennial plants found native in South America. The present garden forms are assumed to be hybrids forms *P. nyctaginiflora*, introduced into European gardens in 1823, and *P. violacea*, introduced in 1831. Originally, the petunia produced single flowers only, and it is due to the skill and care of the hybridist that the present popular double forms were evolved. The habit of growth was also improved by careful crossing and selection and the hybrid varieties were soon cultivated to the exclusion of the original species, their flowers being more varied in form and color, and of larger size and greater importance.

Some years back the petunia was a popular plant in Victorian gardens, and very fine varieties were raised, named and distributed by some of the nurserymen of that time. Fine specimen plants grown in pots were often seen at the horticultural shows, and the plants were largely used also for bedding. Their popularity has decreased largely, but lately they are again coming into favor, the introduction of new, large, brightly-colored strains being mainly responsible. The petunia is one of our best, hardiest and most easily grown border plants. The plants endure heat and drought well and continue to produce their attractive blossoms for a long period during the summer. The single-flowered varieties are most suitable for border decoration, or for massing in schemes of color. They are not suitable for cultivating in places specially liable to dust, or where the atmosphere is heavily charged with grime or smoke, their viscid leaves becoming coated with such substances, which are difficult to eradicate and which check the vigor and bloom of the plants.

Propagation—Culture.

Petunias are usually treated as annuals, except in the case of specially fine varieties. The plants are raised from seed annually and when their blooming season is over are thrown away and a new stock raised from seed for the ensuing season. Most of the double kinds are propagated from cuttings, though there are strains of seed that will produce about 25 per cent of double varieties. The seeds may be sown in autumn or spring. Autumn sowing is preferable, except where severe frosts occur in spring. The plants are strong and will bloom early and continuously if well cultivated. The seed is very small and should be sown in light soil in well drained pots or boxes. The soil should be rather moist and the surface firmly pressed and even before sowing the seeds. A very light covering of soil should be applied and the whole watered very gently and lightly to prevent the seed being washed together in heaps, after which the pots or boxes should be transferred to a close frame, or a sheet of glass should be placed closely over them till the seeds germinate. This covering should be removed gradually as the plants grow, being finally removed when they are 1-4 inch in height. The plants should then be potted into single pots, or transplanted into other boxes of light soil and grown on till spring, when they should be planted out. When the seeds are raised in spring they may be allowed to remain in the seed box until ready to plant out

where it is intended they should bloom.

Cuttings of the young shoots that develop laterally along the stems, or at the base of the plants, root readily in a cold frame, or under a bell-glass or a closely covered box, if inserted in sandy soil during April. The cuttings should be about three inches in length, the leaves trimmed from the lower half of the cutting and the cuttings inserted around the edge of the pots of sand. The pots should be well drained and the sand washed, to remove any fermenting medium. A box (like a butter box) should be filled to within six inches of the top with light soil, sand or ashes. Holes should be bored in the bottom to permit of drainage. The cuttings may be inserted, say, six in a 5-inch pot, always inserting cuttings around the edge, in preference to the center of the pots. Four such pots will be accommodated in a butter box, and after the cuttings are inserted should be plunged to the rims in the material in the box, lightly watered and covered closely with a nicely fitting sheet of glass. In such a frame a number of cuttings may be rooted during the season. After the cuttings are rooted they should be potted into small pots and grown on till spring, when they may be either planted out in the border or re-potted and grown on in larger pots. Petunias succeed well in pots and nice bushy plants may be developed by occasionally pinching the leading shoots. The soil for pot culture should be light and porous and the pots should be thoroughly drained. Soil.

The most suitable soil for growing petunias in the open border is a moderately rich light loam, but the plants will thrive fairly in any fair garden soil. Excessive manuring will produce large plants without a corresponding increase in the number or quality of the flowers. A fairly open position should be allotted them, and ordinary border cultivation, including watering during dry, hot weather, will suffice to bring the plants into a condition that will enable them to produce an abundant crop of flowers.

Many of the ornamental shrubs may be successfully pruned this month. The instruments used in pruning should be first soaked for a short time in a solution of carbolic acid. Diseased germs may be easily carried from one shrub to another during the hot weather on the pruning knife. It has been discovered that plants or shrubs pruned now will lose less sap than those pruned either in the spring or fall. After the wound has dried a few moments it should be painted with white lead, if it is a large one.

This is a good time to set out azaleas in the garden flower bed. Bury the pot up to the rim, allowing a little of the mellow dirt to fall over the top of the dirt in the pot. The place selected should be partially shaded and the ground should be kept amply moist by frequent watering.

As the leaves of the lily of the valley, tulips and crocuses turn yellow, they should be cut off below the dead portions. Their presence is of no value whatever to the plant and they may be the means of harboring a great many of the fungi which assault these plants.

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12 inch long,	\$ 9.00	per
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The Vegetable Garden

THIS MONTH.

PREPARATION for winter crops is the feature of this month in the vegetable garden. Pruning of berry es, mulching of soil, thorough irrigation and hoeing are, of course, essential with the crops planted last month and earlier. Corn may yet be planted for late roasting ears. In planting be sure to mulch. Quantities of seed are lost every summer neglecting to mulch the ground. After seeding, these small saplings are very tender when just sprouting and grow up quickly when they strike the ground, burning crust that is over them. This is a matter of great importance, and with a little extra care one is able to have nice crisp lettuce, etc., in the fall of summer, at a time when the crop is greatly appreciated. Plant last crop of potatoes and green beans. Sow cabbage, cauliflower and celery for main crop. Sow tomatoes for winter crop in the foothills or other sheltered places. Cucumbers and eggplant are also sown now for winter crop.

SAVING SEED.

In general it may be said it does not pay to save garden seed, and this is especially true of all sorts which are light in weight and small in bulk, but there are others, notably peas, beans and corn, and any of these can be improved from year to year if care is taken in selecting the seed. It is a good plan always to have the saving of seed in mind at the beginning of the season, and plant a few rows or hills, as the case may be, depending upon the amount of seed wanted, in some place where they will not mix with other varieties. Give these extra care and destroy all plants that are not vigorous. If earliness is the object, select the pods or ears that are ripest, giving preference always to the largest. If there are not enough of these "first fruits" of the patch to make up the quantity of seed wanted for the general crop, gather the later maturing and keep that seed separate for the main planting next year. Plant the seed first selected in a separate patch and again pursue the same method of selection, and with each succeeding year the peas, beans and corn will grow earlier and better. Of course, this method can be pursued with other plants with great success, being the method experts use in improving and perfecting the different varieties of fruits and vegetables, though they go farther in attempted improvement, often resorting to cross fertilization of blooms, etc., in order to produce new or better types.

The farmer-gardener does not need to take this trouble for the simple method indicated above will give very good results. Of course, it is too late now to take advantage this year of the suggestions offered in regard to planting a patch intended primarily for seed, but it is not too late to save the seed from the largest and most perfect specimens and thus take one step in the matter of plant improvement.

There is another advantage in saving seed from the home garden or truck patch besides financial considerations, and that is, it is a most interesting diversion. It affords opportunities for study and observation which will lead to independent investigation and experiment, to refute or confirm the theories of others, and in his way the investigator, with his mind at work on pleasing and interesting problems forgets himself, and his toil is lightened, so that what the

unthinking regard as drudgery is to him but a source of wider and deeper knowledge.—[Coleman's Rural.

YAMS.

A reader of the Journal of Agriculture wants to know the difference between yams and sweet potatoes, and how yams should be prepared for the table, and that paper answers as follows:

Langworthy says that the true yams, which are often confused with sweet potatoes, belong to a group of climbing plants. The number of varieties, however, found in the tropics and subtropics is very large and many of them bear starch yielding roots which are edible and which vary greatly in size. Some are no larger than potatoes, while others are several feet in length and weigh as high as thirty pounds. The true yams are grown extensively in Southern China, Oceania, Porto Rico and the West Indies, where they are a very important source of carbohydrates in the diet. They rank next to sweet potatoes in those food elements. When used as a vegetable they may be prepared similar to sweet potatoes, by being boiled, baked or roasted, cooked in broth or stewed. The flesh of the more common varieties have a yellow flesh greatly resembling the sweet potato. In flavor they are very like sweet potatoes, so that when they are cooked it is sometimes impossible to distinguish them from the sweet potato. In digestible carbohydrates they rank very close to sweet potatoes. About ninety-eight per cent. in the latter are assimilated as against ninety-six per cent. in the former.

One of the worst pests bothering our Colorado potato growers is the scab which is a very persistent fungus disease. It gets into the soil and on scabless potatoes by associating with scabby ones. It is not known how long the spores of this fungus will remain in the soil and maintain vitality, but the indications are that it is not less than seven years. The disease manifests itself first by tiny black spots upon the potato which later develop into scabs. Ridging the potato hills, which prevents the water from coming in too close contact with the tubers during irrigation, is most effective in preventing scab. Soil that is too moist favors the growth of the germs and in fact propagates the scab disease. Rotation of crops is another means of preventing scab, but the germ is quite frequently found in new ground which has never been planted to potatoes, and therefore rotation cannot always be depended upon.—Denver Field and Farm.

For fifty years the railroad companies have been working on plans for killing weeds along their rights of way by the employment of mechanical means and now the Union Pacific people believe they have the problem by the tail with a down-hill pull. They have a new gasoline weed burner which covers twenty-five miles in twelve hours, while heretofore it has required a gang of sixteen men working a full day to cut the weeds from a single mile of track. The weed burner is built entirely of steel with regulation trucks. At one end is a gasoline engine, used for propelling the car and pumping the air which forces gasoline to the burners spreading out near the ground. Tanks carried on the car platform contain enough gasoline for

a day's run. Through rows of burners spreading well beyond the rails, the flaming gasoline is forced downward into the weeds.—Field and Farm.

INCREASE ITS USEFULNESS.

Every paper wishes to increase its usefulness and appreciates it as a compliment when its patrons have the same desire even if it now has much that gives satisfaction. In remitting for his paper, Henry H. Hassard, Jr., of Oakland says:

Your paper is satisfactory to me and hope you will be able to increase its usefulness.

CRIMSON WINTER RHUBARB

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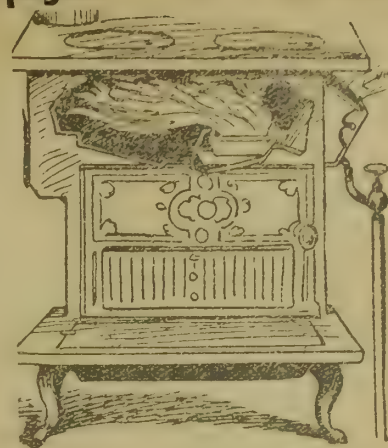
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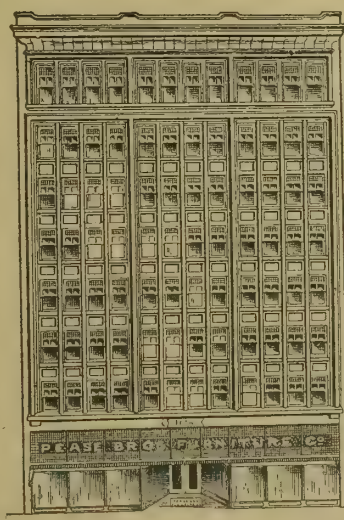
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California Horticulturally

THE NURSERYMAN AND COMMISSIONER.

Continued from First Page

work, and take no one's word for it. We inspect all stuff coming in, and if any pests find entrance it is our fault. We are not supposed to inspect any stock going out, although in order to comply with the laws of other States, some of our inspectors do issue certificates of cleanliness, but this is on their own responsibility and it is not required by our laws. We do not care about the stock we send out of the State; it is nothing to us how badly it is infested; it does not threaten or injure our orchards to have such stuffs sent away, and so we are ready to leave the other fellow to look after his own interests, but in the case of stock coming in, it is an entirely different matter.

Nor do we think it is safe to depend upon an annual inspection, or to accept stock inspected on the wholesale plan. It seems to us too much like Benjamin Franklin's method of asking a blessing. Ben, as you may imagine, was a very busy man, and had little time to spare for forms, so, in order to do his whole duty, and save time, he used to ask a blessing on his food supply en masse—he would bless the flour and the pork in the barrel and let it go at that. So, in the matter of inspecting a whole nursery once a year, it savors too much of the Ben Franklin plan. It matters not, either, how conscientiously the work may be done, there are always chances and strong ones, too, that pests will escape notice, or, that eggs, or young larvae may be overlooked and that these will develop before the stock reaches its destination. It will be recognized, therefore, how utterly useless such inspection is as a matter of protection.

Then, there is always a chance for careless work. We do not know who is doing the inspecting at the other end, but we do know who is at this, and we are much more willing to rely upon the man we know, and whose work we can superintend than one hundreds of miles away and who is not in any way responsible to us, and against whom the grower has no redress, if the work is not properly done. As it is now, if our inspectors do their work carelessly, or are neglectful of our interests, we can get rid of them, or at least, have the pleasure of expressing our opinion of them emphatically when we meet them.

It is for these reasons that we insist upon it that our horticultural inspector shall look after all stock coming in and not bother his head about that going out—let the other fellow attend to that.

Unjust to Some.

I do not suppose that a law was ever passed that did not bear hardly upon some one, in fact, that is what laws are for. They are for the purpose of regulating our commerce one with the other, and if such commerce did not need regulating then there would be no need for laws. But it is often the case that, in the application or enforcement of laws, unnecessary hardships are entailed, either through misunderstanding, or overzeal on the part of those having charge of their administration. I presume that it has been so in some cases with regard to our horticultural

laws, or, at least, it may have appeared so, for I do not know of any cases where the inspectors have gone beyond the plain letter of the law in the discharge of their duties, although we have received many complaints to that effect.

No Real Conflict.

Nor is there any conflict between the nurseryman and the inspector. The inspectors are working in the interests of their constituents. They represent the greatest industry of our State. In it there are millions of dollars invested, tens of thousands of people are employed and depend largely upon it for their livelihood. It supports thousands of homes and bears a very large portion of the burdens for the maintenance of the State. It is too important a matter to neglect, and the introduction of one pest might cause losses amounting to hundreds of thousands of dollars, if, indeed, it did not ruin it. It is to guard against such possible dangers that our laws have been formed and are now enforced. And there is not one nurseryman in the whole United States who would willingly, knowingly, ask us to let down the bars in order that he might ship us infested stock. Knowing the character of the men engaged in this business as I do, I make this assertion. Then, where is the cause of conflict between them, or why should there be any dissatisfaction? If the nurserymen will see to it that their stock is clean, and the inspectors do their duty, they will be working in harmony and to the same end and will find, as I stated at the commencement, that they are allies and friends, not opponents.

Of course, we sometimes hear rumors of attempts to evade our laws, but in all such cases, where we have traced them out, we have never found them true. California has an embargo on certain sections of the East where Peach-yellows and Peach-Rosette exist, and trees from such points are not allowed entrance. These are among the worst of the peach diseases and have never been introduced into our State. Several reports have been made to us that stock being shipped to California has been procured in the prohibited districts and re-shipped from clear sections, with the statement that it had been grown there. I am pleased to state that in all such reports we have never found a vestige of truth.

Just as Good as We Know How.

Touching again upon our horticultural laws, I will say that, being human and being enforced by men, they are not yet perfect, but they are as good as we know how to make them. Perhaps the greatest weakness is in their enforcement. We have our horticultural boards in all the principal fruit counties and upon these devolves the duty of enforcing the laws. In one county the commissioners will do their full duty, as they understand it, and do it conscientiously; in another and, perhaps an adjoining county, the board may be more lax in their enforcement of the law, or take a more liberal view of its provisions. In such a case, it appears to the shipper that he is being discriminated against in the one county, and he complains about it.

If we could establish some method

uniformity in the enforcement of horticultural inspection laws, though they were enforced in strictest manner allowable, there could be less reason for complaint. We have many complaints from this state, and especially from Eastern nurserymen, who have had their oranges passed without trouble in one state, while it had been held up in another. We fully appreciate the importance of this, and the necessity for a uniform system of inspection. Perhaps we may have it some day, but at the present time, we have got to work as best we can under our present system and hope for the future when all inspectors shall act intelligently in the enforcement of the law in which case there will be no reason for complaint, so long as they are within the letter of it, no matter how strict they may be, and if it could be, the nurseryman would realize that our laws are for our protection, not for his injury, and he would work with us.

UNIVERSITY EXTENSION WORK IN AGRICULTURE.

The annual report of the Farmers' Institute work under the department of University Extension in Agriculture at the University of California has been compiled. Prof. Warren T. Burke, Superintendent of the extension work, today had many interesting comments to make on this report. It covers the work of the year ending June 30, 1907, and gives interesting and instructive items of which the following may be noted:

During the past year Farmers' Institutes were held in thirty counties of the State. The total number of institutes held during the year was thirty-four. Thirty-three of these were one day meetings; forty-eight continued through two days while five were of three days' duration. The total number of sessions was 296 while the total attendance at these meetings was 20,470, making an average attendance of 69 at each session. It required the services of twenty-five State lecturers and one hundred and ninety-five local speakers to carry out the work of these Institutes. Of these State lecturers thirteen were employed at various times to give instruction in special topics while ten lecturers and demonstrators from the faculty of the College of Agriculture devoted a total of one hundred days to the work.

In addition to these already noted, three general Institutes were held. Two of these were in conjunction with the States Teachers' Institute at Fresno and Chico and one with the Sonoma County Grange. The total number of sessions at these meetings was eight and the total attendance 2500 and an average attendance per session of 212.

A great many citizens of this country do not realize the nation's greatness. While we have but about 6 per cent. of the world's population, we produce each year about 22 per cent. of the world's wheat, 30 per cent. of its gold, 32 per cent. of its coal, 33 per cent. of its silver, 34 per cent. of its manufactured articles, 35 per cent. of its iron, 36 per cent. of its cattle, 37 per cent. of its petroleum, 54 per cent. of its copper, 75 per cent. of its cotton and 84 per cent. of its corn. When we remember that it is within our power to double the output of nearly every one of the above products we can begin to see how really great we are.

With the Citrus Growers

THE EVIL OF SHIPPING GREEN ORANGES.

CALIFORNIA once endeavored to stem the tide of green oranges which are shipped at the beginning of each season, but with little avail. Either our people are caloused or it has been found that the market has not been injured as much as anticipated by some. It is still a matter of regret with many. It is, however, a sensitive question for in each section "our oranges you know ripen and sweeten up so much earlier than in other sections," is such a well established "fact" that it cannot be talked against. Besides, many look at it as we do at the first early spring apples—eat them with a wry face and long for the later, full ripened, luscious fruit.

A writer in the Florida Agriculturist is, however, appealing for less of this evil and writes as follows in that paper:

I don't know of anything that hurts the reputation of Florida oranges more than shipping them green. Did it ever occur to you, brother orange grower, that the very oranges you sell to some packer to go North are not fit to eat;—that these very green oranges go into a hot house and are made to look yellow, and are then offered upon every fruit stand in the city, with a big sign, "Florida oranges;" then when a man takes a dozen home for his family to eat or one is being served in a hotel or restaurant, what do you think he says when he puts it in his mouth? I really don't think it would look good in print to repeat it.

Now let us see what the results are. The consumer shuns Florida oranges like a "burnt child;" hotels and restaurants stop serving them, and the result is Florida oranges are not wanted in the market until after Thanksgiving or nearby Christmas. I have asked several shippers and growers how they expected people to eat those green things? The answer they gave me was: "Oh well, they do something with them." Yes, I will agree that they do something with them. They remain in the retailer's hands until he is disgusted with them and he makes it a point not to touch Florida oranges until he is almost compelled to do so.

We all know that oranges are not like other fruit—when not fit to eat can be used otherwise, for preserving, making pies, stews, etc. We, therefore, should not ship the finest oranges the world has ever produced in a green state, to disgust the lover and patron of our fruit. The only argument I have heard in favor of shipping green fruit was that we dispose of that much, it is out of our way; the first and last cars bring the best prices, and the trade wants it. But how long does that trade want it? Also, how long do those big prices last? Just as soon as those big Eastern or Western cities get in a few cars they say, "No Floridas for me."

Brother grower, don't ruin the market for the sake of a car or two of oranges that you may sell at an advance of 25 or 50 cents per box. You are a big loser in the end, and it costs the State hundreds of thousands of dollars.

There is a pure food law now that may possibly cover that; but I fear not. Now is the time to take steps to stop this evil, and by united effort on the part of the orange grow-

ers we may accomplish it in some way. I do hope some Florida paper will have the backbone to make an issue of it and fight to the bitter end and not wait till several cars have been shipped and then come out and condemn it. "An ounce of prevention is better than a pound of cure."

I personally own nearly 200 acres in bearing grove, and I will not sell a box until it is well colored and fit to eat. But remember that I am only "a drop in the bucket." Let us orange growers unite on this issue and do all we can to oppose it all over the orange belt.

ORIGINAL FEATURES.

AS THE orange shipments from Redlands for this season are now practically at an end, most of the packers are actively engaged laying plans and waging a campaign for the coming season's business. There are many plans under consideration for the improvement of the packing facilities in Redlands. Most of the shipping concerns will follow the same general policy adopted by them in seasons past, The Orange Growers' Cash Association, however, has decided to work next year along somewhat different lines, and embody in its methods of operation some entirely original and new features which appear to be along progressive lines.

The organization will operate on an association basis, becoming strictly a grower's, packing and marketing association. It will employ its own exclusive gangs of pickers throughout the season, to assure uniform care and protection in the handling of the fruit in the groves, at actual cost to the grower. Mr. Hinckle, the manager, remarked that when they put in practice this plan at Highgrove this season, the comparative per cent of decay as to that handled by them in other districts was remarkably small, and the net returns for the fruit decidedly higher.

The association will limit its pack to a comparatively small output so that its growers will have the benefit of being able to ship heavily when the markets are favorable and not be forced to ship under adverse conditions. Their aim seems to be quality, rather than quantity of business.

A new feature will be the control of the organization by a managing board to which the majority of the members will be directly elected by the growers of the association from

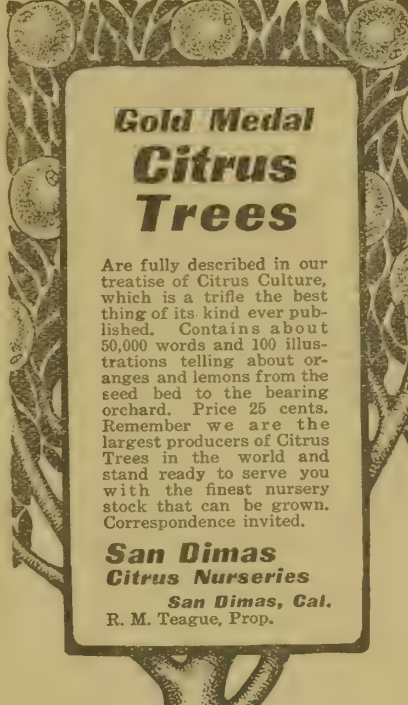
among their own number. This will give the growers the voice, direct management and operation of the business.

Mr. Hinckle believes that through its careful management in picking, its improved methods in handling and packing, that they can deliver their oranges in sound condition without the expense of icing, long after most shipping organizations have been compelled to assume this expense, especially as the Orange Growers' Cash Association will have the benefit of the pre-cooling system which will be furnished them in San Bernarino, by the Santa Fé.

The new organization will retain the name of Orange Growers' Cash Association, under which the old organization has successfully conducted its business—Redlands Facts.

The manager of the Citrus Union testified before the Interstate Commerce Commissioners that he, as agent for the Citrus Union was responsible for the method of distributing cars to orange shippers last season.

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TWO STATE FAIRS.

California is such a long State territorially, a state of magnificent distances, as Mark Twain once said, that it is extremely difficult for people south of the Tehachapi to attend the State fair held annually at Sacramento.

Why not inaugurate two State fairs, as Ohio used to hold when one was fixed at Columbus and the other at Cleveland. By holding the Sacramento fair the first week in September and the Los Angeles fair a week later, giving time for the removal of exhibits from one place to the other, we would have the entire state represented at both fairs. The attendance would, we believe, be as large at one as the other and the proposition should be a financial success. As it is now the south half of the State has not the representation at the Sacramento fair it should have because the distance is too great for people and exhibitors to attend.

It goes without saying that no better idea of a State's resources can be obtained than from the exhibits that are annually made at State fairs, and it is to the interest of everybody to see that these are representative of the best products in the State. The State fair has become a permanent institution and it is now recognized as the best general means of advertising that has ever been devised. Not only persons who live within the State attend such fairs, but outsiders who are seeking investment for their money. Their impressions of the State are largely based on the products they see exhibited there and naturally they will desire to place their money in the section that makes the best showing. The fact that one locality is better suited to grain raising than another should not discourage farmers who live in other parts of

the State. Probably their land is more adapted to stock raising, or some other branch of the farming industry. It is impossible for any one State or locality to excel in everything, and one branch of agriculture is equally as important as another. By visiting the State fair every year, farmers will soon learn how they can best compete with each other.

By holding two fairs, as we suggest, the people of the entire State would be brought into closer relation, their interests better understood and the magnificent possibilities of the entire State more widely advertised. Ohio made the enterprise win for many years, why can't California?

THE SUMMER SCHOOL.

The Cultivator believes in educating the farmers' boy and girl in the line of practical work cut out for them. If the boy is to follow farming as a business, or the girl prefers farm life to any other kind of life, each should be given the advantage of practical training in the special work desired.

Scientific farming today is the only farming that will pay. Competition is so sharp, public demands are so strenuous on the producer of fruits, vegetables and dairy products, that the farmer must know to a certainty the very best way to produce the very best article if he is to compete in home and foreign markets. The ignorant, half-hearted methods of the old time days will not do for the present, and the failures which are recorded annually among the agriculturalists of the country are directly traceable to a want of proper knowledge on the part of farmers.

So, we say, it is absolutely essential to educate the boys and girls who are to become the agriculturalists of the future in the intricacies of the profession if they are to succeed. The summer courses at our State Universities provide the means for practical education along agricultural lines. Therefore it is important that our boys and girls take advantage of these summer classes to acquire information which will fit them for future usefulness in the field of farm work.

Parents owe it to their sons and daughters to provide them with the equipment necessary for successful competition with others engaged in similar endeavors. It is the best legacy they can leave, for education of a practical character is a lasting source of available revenue.

DAIRY INSPECTION LAW.

During the meeting of the last legislature of California, when the appropriation for the continuance of the State Dairy Inspectors was up for consideration, the Cultivator strenuously urged the passage of the appropriation necessary to continue these officials. This measure, in common with several essential measures, was killed, thus doing away with the State Dairy Inspectors. It is needless to say at this time, that this bill, was one of the most important before the legislature. The health of the community at large was involved. The creameries throughout the State were earnestly advocating the continuance of sanitary inspection of dairies, but in the face of earnest appeals from creamery men from dairy men, both wholesale and retail, the Legislature turned down the appeal. One member of the assembly gave as the reason for his vote, that the "job" of Dairy Inspector is a sinecure for political hacks who have a "pull." Grant this to be true; reports made by inspectors show reasonable exercise of diligence to require dairymen to live up to the law regulating the care and handling of cream.

Today there is no provision for the pay of inspectors, and creameries are at the mercy of unscrupulous or unsanitary dairymen, unless the owners of these creameries go to the individual expense of maintaining the Board out of their own pockets. The community is at the mercy of unsanitary dairies, without any redress whatever, so far as State inspection goes.

Why the Legislature committed this blunder is more than the average citizen is able to understand. It has been stated by a leading creamery that before the creation of the State Dairy Bureau, as high as 40 per cent of the cream received was of an inferior quality and had to be made up

into second grade butter, while under the present system of inspection the amount of bad cream has been very small indeed.

It is asserted that creamery men knowing the importance of inspection and the value to the business of State Dairy Inspectors are contemplating the creation of a fund to keep these inspectors at work. This is very creditable on the part of the creamery interests of the State, but it is a hardship which ought not to have been forced upon them. The Legislature should have made an appropriation for the continuance of State Dairy Inspectors.

There is no advantage to be gained in berating the defunct Legislature at this time. The only thing the people can do is to bear in mind the members of the assembly who voted against this and other just and equitable measures, and so that they do not have the pleasure of again misrepresenting public sentiment on questions vital to the general interest of the community.

There is one thing, however, which must be said for the better class of dairymen; they are earnestly in favor of sanitary inspection, for puts them in a position of independence to protect their interests against any unjust claims of unworthy creamery men.

SECRETARY WILSON'S BIG STICK.

Prof. Wickson, like the rest of us, has a high appreciation of our National Secretary of Agriculture, but in a recent number of his excellent paper the Rural Press, he shies at one of Mr. Wilson's latest orders concerning women clerks in the Department of Agriculture, and wonders where the grave and sedate head of the Department is going to find himself when the women clerks of the Agricultural Department and the women clerks of the country "get busy" about him, as they certainly will do when his order goes into effect.

Prof. Wickson writes in a cautious vein as if he might have had experience along some line which gives him an insight into the possibilities which confront Uncle James Wilson's peace of mind later on. We quote Prof. Wickson:

We have always admired the acuteness of Secretary Wilson and talent for carrying measures along lines of least resistance, but we wonder if he has missed it once. The announcement comes that he has made an order that "no woman clerk under him shall in the future act as private secretary or confidential clerk to a male chief of division or bureau in the department." The order is the direct result of prosecution for leakage of crop statistics by which dealers made vast sums of money. The leakage seems to have been traced to a woman who was confidential clerk, and now Secretary Wilson hopes to prevent it by giving no more women a chance to know important things. This is equivalent to announcing to the country that the Secretary shares the traditional belief that a woman cannot keep a secret, and that is now looked upon as hoary delusion. We presume that Secretary Wilson has suffered more or less by the onsets of equal suffrage advocates and other defenders of the sex. Most public men have had more or less of this sort of attack. If Secretary Wilson has he will soon conclude that such approaches have been merely midsummer zephyrs compared with the cyclone which will now strike him for legislating against a class because an individual proved untrue or because he has told the world that a woman cannot keep a secret as well as a man. On our own hasty judgment is that women have more business conscience than men have, and that to rule against the sex is unwise as well as unfair. It is, perhaps, that of two who will sell information that women will sell for less price, but there will not be difference enough in that direction to increase the likelihood of a bargain. After all the women's clubs and other motive powers strike Mr. Wilson he will conclude that there are bigger sticks than those which are wielded in the national capital.

FINE FOR STANDARD OIL.

The judgment, rendered against the Standard Oil Co., by Judge Landis last week, wherein a fine of over \$29,000,000 was assessed, as penalty for violation of the Federal statutes is the largest judgment ever rendered against a corporation, or an individual, in this or any other country.

It marks a new era of jurisprudence in our national history, and will come as a warning to offenders against the law wherever they may be discovered.

It also comes as a warning to great men and greater corporations; that neither are above the statutes of the land in which they live, and that all men without regard to person, or position must obey the laws to which the humblest citizen is subjected.

News of Country Life in the Golden West

Southern California

Northern California

AGRICULTURE.

Large planting of tobacco is to be made near Downey.

The Colorado River is now falling at the rate of six inches per day.

The Santa Ana River has less water than is usual for the month of July.

Compton beet growers are figuring fifteen tons of beets to the acre.

Five thousand acres of barley have been harvested in La Habra valley.

Orchardmen at Chino are becoming somewhat of a factor in its agricultural economy.

There are 45,290 acres of lima beans and nearly 15,000 acres of small beans in Ventura county.

The Pellesier ranch near Riverside is a new dipping outfit for eradicating the Texas tick.

An agent of the Department of Agriculture is investigating the walnut blight at Oxnard.

Residents of District No. 5 of Imperial Valley are planning for a new cantaloupe association next season.

Six hundred and thirty dollars is being received per carload for spuds from the neighborhood of Anaheim.

One ranch, the San Joaquin, in Orange county has put 6000 acres of lima beans and 8000 acres to the Black Eye beans.

Celery growers in the peat lands near Huntington Beach state there is prospect for the best crop in the history of celery growing.

Chino potato growers are bragging about the fine quality of their Early Rose. J. G. Hartman maintains that output runs forty potatoes to the bushel.

Perris Valley this year has about twenty-five thousand acres in barley, twenty thousand acres in wheat and twenty-four thousand acres in grain and hay.

A Santa Ana company has been formed to produce vegetables, especially celery, on the rich lands near Santa Ana. The company is capitalized at \$200,000.

A meeting of ranchers near Santa Ana was held at that city last week to discuss the advisability of lending encouragement to the establishing of a beet sugar factory.

The Santa Ana Valley Irrigation Company and the Anaheim Union Water Company have joined in the formation of a new company to develop water in the Santa Ana River.

A suspension bridge carrying a long line of riveted steel pipe carrying water for irrigation in Little Rock Creek near Lancaster, collapsed last week. The bridge was nearly one-half mile long.

Various Southern California counties have been appealed to by the Sacramento Irrigation Congress Committee to aid in the entertainment fund to the Congress. So far as reported, all have refused.

Some grain farmers are nettled over the fact that the new law relating to grain bags manufactured at San Quentin prevents the reselling of the bags. For this reason the farmer who is overstocked with bags is compelled to hold over the surplus until he can use them.

HORTICULTURE.

West Highlands shipped 200 cars of oranges this season.

The Yucaipa Valley apple crop will be exceedingly light.

Sixty-two cars of oranges have been shipped from Hemet this season.

Valencias have usually commanded \$3.00 per box f.o.b. cars California.

The Skelley orange packing-house at Riverside was burned last week.

The cantaloupe season at Brawley is ended, with a total of 346 cars shipped.

Rialto has finished its output of oranges this year, with a total of 821 cars.

Nearly 2000 cars of Valencia oranges have been shipped from Southern California.

A. Mills of Anaheim is making strong efforts to bond the county for good roads.

One strawberry grower at Riverside took \$300 from an acre in four and one-half months.

Canners are paying \$40 a ton f.o.b. for freestone peaches and Banning Bartlett pears.

"Gang picking" and pre-cooling are to be factors in next year's citrus output at Redlands.

Fullerton shipped 750 cars of oranges this year, being 100 in excess of former records.

Members of the Whittier Citrus Association will hold their annual picnic the last of this month.

A representative of the Mexican government has been at Riverside gathering information as to citrus culture.

Banning almond growers are being offered 13 cents a pound for soft shell. The crop will be three cars from that point.

A representative of the Japanese government is in Riverside securing information as to its canal and irrigating system.

Walnut growers are much more hopeful for a big crop than earlier in the season, though it is yet too early to predict with certainty.

Fairall and Kunzman of Highland have secured a patent on a measuring appliance to determine the amount of irrigation water in a ditch.

Hemet honey crop will be light. Some report not more than one-fourth of the average, but the price will, in part, make up for the shortage.

Some of the Southern California papers estimate that the total output of walnuts this year will not exceed sixty cars, as against 300 cars in 1905.

The writer in the Riverside Press says that orange box shock will open at about 18 cents, while others predict it may be as low as 13 cents.

A car of Valencias from Peyton orchard at Highlands brought \$1937 at Boston last week. The extra fancy fruit in this car brought \$5.15. The car was precooled.

It is claimed that the Southern Pacific has spent three and one-half millions in closing the break in the Colorado River. Of this, it expects to get back from the government one million and one-half, and one million from the stockholders of the development company, while one million is its own portion in saving its tracks from destruction.

AGRICULTURE.

Tres Pinos will have 156 tons of hay.

The Fresno Health Board is after slaughterers of veal while too young.

Prof. Jaffa addressed the Petaluma poultrymen at their meeting last week.

A new pickle factory at Watsonville is calling for increased acreage of cucumbers.

The individual farmers telephone lines in Yolo and Yuba counties are very successful.

It is estimated that Fresno county's output of poultry will amount to \$500,000 annually.

Kings County Promotion Association is now in full swing doing good work for that rich country.

Reports from various parts of the State indicate the honey crop will be still shorter than anticipated.

The poultrymen of Petaluma have decided upon December 17th to 21st as the date of their poultry show.

The acreage of potatoes about Castroville is less than usual, but the output per acre is rather heavier.

Dixon has finished the shipping of its grain crop and finds the total yield in excess of earlier estimates.

Thousands of acres of feed were destroyed by a brush fire in the eastern edge of Tulare county last week.

A Turlock irrigation district grower harvested thirty tons of muir peaches from ten acres of five-year-old trees.

The Water Consumers' Association of the Turlock irrigation district, held an important meeting last week at Turlock.

Most hop growers are refraining from selling, claiming the short foreign crop gives almost certainty of increase in price.

The Lathrop Hay Company, of Hollister, estimates that valley will have about twenty-seven thousand tons of hay this season.

The Yolo Democrat says that Yolo county offers superior dairying conditions, which are just being realized by its dairymen.

W. O. Leighton, Hydrographer of the U. S. Geological Survey, is investigating the water supply near Corning, Tehama county.

Monterey county reports that with barley at \$1.07 to \$1.10 and hay at \$10 a ton, the farmers life is not so serious as it might be.

The hop market seems to be very uncertain and dealers are taking advantage of this condition to bear the market as far as possible.

Farmers owning lands near Madison, declare the County Assessor has been unjust, and have formed an association to secure justice.

A big pump delivering 133 cubic feet of water to the second has just been installed by the Central Canal Company in Glenn county.

Yolo county's output of barley is estimated to be about three-fourths of the average crop. Prices are ranging from \$1.10 to \$1.15.

"The biggest crop of hay ever known in the Merced section" is the result of this year's farming operations, says the Merced Sun.

HORTICULTURE.

Hanford Cannery is running on peaches.

The Santa Rosa cannery is now running on peaches.

Visalia is boasting of tomatoes two feet in circumference.

A fine crop of peaches is ripening at Guinda, Yolo county.

The first car of grapes from Clovis went forward on the 26th.

Cannery help is scarce is the cry about Yuba and Sutter counties.

It is estimated that the raisin output this year will aggregate 70,000 tons.

The peach crop of Sutter county is surpassing all expectations as to size.

A fruit packing-house at San Jose, valued at \$6000, was burned last week.

The Fresno cannery will have a much larger output of peaches than usual.

Pajaro valley apple crop is now estimated to be much larger than first figures.

One fruit shipping firm at Visalia has an output of about six cars of fruit daily.

Efforts are progressing for Tulare's big fair which will open the 30th of September.

Sonoma county will harvest grapes from seventeen thousand acres of vines this year.

The Parajo valley apples are promising bigger returns this year than at first anticipated.

Turlock cantaloupes have proved successful winners of good coin in the market this year.

Carmelita vineyard near Fresno has been placed under attachment to secure certain debts.

The total shipment of green fruit from Vacaville aggregates three hundred and seven carloads.

Pears in the Sacramento valley, while lighter in crop, are said to be finer in quality than usual.

Hanford claims a new peach which is named the Muir cling and is said to be an exceptionally fine peach.

Fresno Home Packing Company is the name of the new packing concern with a house established at Visalia.

Large quantities of green peaches are being shipped from Hanford to canneries in other sections of the State.

The Southern Pacific shipments of products from the little town of Clovis aggregated nearly \$14,000 for one week.

A cluster of thirty-nine Belle-fleur apples in one bunch is exhibited at the Watsonville Board of Trade rooms.

The Ukiah Times says that the first grapes of the season were Sweetwaters, and were received from Imperial.

Parajo valley fair which has promised to be an exceptionally good agricultural fair, is to be held at Watsonville in October.

The packing houses at Watsonville are busy places these days getting ready for the exceptionally big pack of this fall's apples.

PER
2 BUSHEL
SACK

\$1.90

PER
2 BUSHEL
SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by all largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Hazardous feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultry men who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.; My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Fitcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland.
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis and Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 505 South Main Street.
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Beef Scraps Raw Bone

GUARANTEED ANALYSIS:

Protein65%
Fat8%

Made of Cooked and Dried Livers, Lungs, Melts and Clean Scraps. No fertilizer ingredients in these Beef Scraps.

GUARANTEED ANALYSIS:

Protein25%
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Made of Clean Beef Bones, surplus fat removed. Cleanest Raw Bone on the Market.

Pure, Clean Animal Matter Poultry Foods

WESTERN MEAT COMPANY SOUTH SAN FRANCISCO CALIFORNIA

Lincoln Avenue Poultry Yards

—Capt. Mitchell's S. C. White Leghorns—

To clear a few yards for young stock we will sell a limited number of extra choice breeders at half price until August 15th. They are all utility birds with conformations ranging from 150 to 250 eggs per year; prices from \$1.00 to \$3.00 each for hens and \$3.00 to \$25.00 for cocks. If you are interested come and see us or write.

CARL C. CURTIS, Owner

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Altadena Cars

A GOOD TONIC ACME ROUP CURE CURES

FED TO YOUNG CHICKS WILL KEEP THEM HEALTHY AND VIGOROUS; THE OLD FOWLS WILL MOULT QUICKER AND EASIER; PULLETS WILL LAY EARLIER AND LONGER

LEE'S EGG MAKER

IS THE BEST TONIC MADE

LEE'S LICE KILLER

IS GUARANTEED

HENRY ALBERS CO.

315 SO. MAIN, LOS ANGELES

Beef, Blood and Bone Will Make Your Hens Lay

This is not a medicine but a high grade nitrogenous food. Write for free booklet, "How to make Hens Lay." Our Poultry Foods are sold by all local dealers and manufactured solely by

The Pacific Guano and Fertilizer Co.

Also Pioneer Manufacturers of High Grade Indiana and Yolo Sts., San Francisco, Cal. Fertilizers. Write for our free booklet, "Farmer's Friend." Valuable to all farmers and ranchers.

Profit in the Poultry Yard

AROUND THE YARDS.

Get your birds through the molting early.

Keep plenty of charcoal and grit before your fowls.

Green food is a necessity at the time of year.

One breed of chickens is, as a rule, enough for a ranch.

The object of caponizing is to improve the quality and increase the quantity of the flesh fowls. It must be done while the fowls are young however.

What to feed, when and how to feed are important things to know about poultry.

If you have not already culled your birds do so at once, don't feed the non-producers.

Take special care of the nests keep them clean, inviting and free from vermin; unless you do, the hens will not take to them kindly and will lay on the ground around the yards, which will encourage the habit of egg eating.

The domestic goose was brought over from Europe by the early settlers, and is not even related to the common wild goose of the United States; on the contrary, the quail and partridges of the United States are indigenous species. While many attempts have been made to introduce the European quail and partridges these birds are still very rare.

On this coast, especially in Oregon and Washington, several species of pheasants from Japan and China have been turned out to shift for themselves and have become very abundant.

SQUAB CULTURE.

Not many years ago the barnyard hen was considered a very unimportant asset to the ranch and was only tolerated because of the few eggs she laid in early springtime together with the few chicks she brought off from a three-weeks setting in a nest she had stolen out somewhere. Today things are different; the hen is one of the most valuable acquisitions of the farm, paying for herself together with 100 per cent profit on the amount invested in her.

As the hen once stood in the eye sight of the rural districts, so stand the pigeon today: Little understood, of little value, apparently, allowed to go in and out at will and kept by the few poor squabs it will produce under conditions not calculated to give good results. Yet, Mr. Rancher, you will find in the pigeon as great a wealth-producer as you have found in your barnyard hen, if you will improve its conditions as you have improved that of the hen. The game birds of our country are fast passing away. The law keeps them off our tables the larger portion of the year and when the law lets down the bar and permits killing, the hunters cannot supply the demand for the supply does not exist.

Can We Sell Them?

The demand is continually on the increase. The pigeon steps in and offers to supply the demand and the offer is cheerfully accepted in all

We solicit short articles of a practiced nature from the fancier and utility breeder, giving their experiences with poultry. All inquiries pertaining to feed, management, disease and its prevention, will be answered through these columns.

JULY INCUBATOR CHICKS.

A SUBSCRIBER asks why June and July incubator chicks should be inferior to earlier hatches.

This certainly is an important question and one that should be considered from many points. Our first thought would naturally be, if June and July hatches in incubators was unprofitable and that the chicks were inferior to earlier ones; that the trouble was in the incubator and that when the warm days of summer came we might as well store our incubator, shut up shop and quit for the season. Perhaps many who have tried to hatch at this time of year will say the same thing for hatches are very unsatisfactory and especially so unless we begin farther back than the incubator.

We all know that to hatch strong, healthy chicks we must have strong, vigorous parent stock; that special care should be given to food and general condition that we may get fertile eggs.

Fertility of Eggs.

The first thing for us to consider, if we are going to hatch chicks at this season of the year, is the male bird; we all know or should, that a bird that was put in the breeding pen, say in January, and has been with the same females will not fertilize so many eggs, as he did when first mated. Many male birds at this season of the year are not nearly so active as at first. Examine your birds and see if they are not thin, really too thin to be in a breeding pen, even should he be in good condition; he has become so well acquainted with his mates that the percentage of fertility is far too low for good results. Then let us also consider the females that have been laying, say six months; the eggs are smaller than at the beginning of the season, and although a small egg may hatch, do we consider it as good for incubation as a larger one. To insure good results we would suggest that you change your male bird every few days from one pen to another or better still, if you have two males put them in pen on alternate days, giving them special care when not in pen.

Care of Incubator.

You should have a place for your machine where you can control the temperature. An incubator cellar is best, but should you not have this, put it in the basement, or in an inside room. Unless you watch the heat very closely it will run too high. Which will have a negative influence on your chicks.

If you will consider these points and give your chicks proper care and feed, as has been mentioned recently in these columns, you may expect good results even at this season.

Pick out your two-year-old hens and dispose of them in the market. They will never pay for their keep if held over. The only time it is advisable to keep old hens is when they are remarkably high-scoring and are kept for their value as breeders.

cities. Hence I state with emphasis that the business of raising squabs for market is not a delusion or a snare as so many are inclined to believe. It is really a field of profitable and safe investment. The fact that men who were wholly unversed to the pigeon business in any of its branches have rushed headlong into the squab business and made colossal failures of it, is not a proof positive that there is no money in the raising of squabs for market; I know there is good money to be made in this branch of the pigeon industry. The fact has been clearly demonstrated on many of the successful squab plants scattered all over the country. I once doubted this. I was very much like the old lady who, with many others, was viewing the first of the steam engine. The engine was standing on the tracks, puffing from its different valves making a great noise; the old lady asked about it many times; she put her hands on the drive wheels and it paused and shook her head, then turning to the crowd, she exclaimed: "It will never go, it will never go." After a little while, the engineer took his place; he tested the different parts of the machine to see that they were all right, then in answer to a signal blew a blast from the whistle and slowly allowed the steam to escape into the cylinders. The machine started, the engineer opened the throttle wider, more speed was attained. The old lady rushed to the track, she shaded her eyes with her hands so that she might view the machine the longer. After a time it passed from her view. She turned to the crowd throwing her hands in the air exclaiming: "It will never stop, it will never stop!" As the old lady was with the engine, so was I and many others. We loved the fancy pigeon for itself, not for a profit. Others loved the pigeon for the profit and started large operations to supply a demand which did not believe existed. We call it a fad and said it would never go. Now we too see the demand and say, in excitement, but after careful study, it will never stop. I firmly believe the squab business is destined to be one of the most profitable ventures in the list of good things for the table. There is much to learn (there always will be) but the demand exists and active brains are at work solving the problem of success.

Use First and Then the Birds.

The requirements of the pigeon is expensive. The loft can be arranged in the upper story of the barn, such is handy, to accommodate 50 pair and this is all that should be allowed in one colony. Select a shed eight by twenty, six feet high in rear, eight feet high in front. Batten the cracks, face the building to the South or S. E. Arrange two nests for every pair of birds with small space between each pair of nests to avoid fighting. A loft should be built six feet high, twelve feet wide and twenty feet long covered over with wire, thus keeping the birds enclosed as they will do better confined. Yet, if convenient to do so, it is well to liberate them once in a while for exercise, but this is not necessary.

Selection of Birds.

As we have the house we must now get the birds. This is an important movement. What kind shall we get? There is the Homer, the Runt, the Maltese Hen pigeon; also the Runt-Hen cross, produced by crossing the pure Runt pigeon on the

Maltese Hen. The Homer is a hardy little bird standing confinement well. Producers say, seven pair birds in a year, the dozen weighing from eight to nine pounds at four weeks old. Value on the market from \$2.50 to \$3.50 per dozen. The squabs are a very light color, not showing many pin feathers, easily cleaned and sell readily.

The Runt is not so hardy as the Homer nor does he produce quite so many squabs per year. If it averages four pair per year it does well. They weigh well one and one-half pounds each at five weeks old and bring readily \$6.00 to \$7.50 per dozen. They are in demand in private families and clubs.

The Maltese Hen Pigeon.

No pigeon is more hardy, none more prolific, producing an average of seven pair per year weighing from twelve to sixteen pounds per dozen. Meat plentiful, extra fine in tissue and plenty just where we like to see it, on the breast. They are in great demand and the few squabs that get to the market readily sell for from \$3.50 to \$6.00 per dozen.

The Runt-Hen Cross.

Just the thing for high-class trade; a cross of the Runt and the Maltese Hen, creating a pigeon as hardy as the Homer, having the wonderful breeding power of the Maltese Hen pigeon, with the great size of the Runt. Young ranging from fourteen to eighteen pounds per dozen. Always in demand on the market selling at from \$4.00 to \$8.00 per dozen, according to season. Price generally prevailing with breeders are: Homers, \$1.50; common Runts, \$5.00; Maltese Hens, \$5.00; Runt-Hen cross, \$3.00.

Feeding.

The feed need not be expensive, but must be clean and wholesome, consisting of wheat, Kaffir corn, yellow corn, with plenty of gravel or grit. Water should always be supplied in abundance as they love the bath and where bathing is permitted freely the birds are seldom bothered with mites or lice, at least never to the extent that chickens are.

Advice to Beginners.

If a person has not a natural liking for pigeons, if he is not painstaking, economical and persistent, he will not succeed. In this day, when competition is so great, a man to succeed in almost any business must stick to it closely, employ the best appliances and watch every point.

I would advise those who think of going into the squab business, who have had little or no experience with pigeons, to go slow—to buy a few pair, study their requirements and learn how to handle them before they jump into it by the hundreds of pairs: spend a year in experimenting if needs be. This is straight, honest advice. Of course, you want to be up and doing, but there is no great hurry. Our people do not consume one-half as much of this kind of produce as do the European nations, but are fast falling into line; more and more, squabs will be demanded each year, and you want to be able to handle your share in a skillful manner.

None of the breeds I have mentioned nor any other breed can produce one pair each month. Some advertise ten pair as an average, but I should rather deal with the man who considers six or seven pair a good average, for he certainly talks like a man of experience, but the amateur has to prove all these things, battle with disease, moulting season,

Egg-More

for

Early Molt

Don't let your hens molt for months. Don't let them get all run down and out of condition. They need to be fed a scientifically balanced ration during this trying season. EGG-MORE is just the thing to mix with good grains to make the same a rightly balanced ration. Many so-called "poultry foods" and "egg makers" are nothing but stimulants and not advisable to be fed regularly. If your poultry are already in a run down condition,

West Coast Poultry Tonic

is what they need for a short time; that is just what its name implies. It is very easy to mix a lot of ingredients, much of it a little better than refuse and call it egg food. And even if good foods are mixed it doesn't make an egg food unless the ingredients are adapted to the requirements. Some mixers of "egg food" seem to think that it is the shell alone that is to be made, forgetting that the hen has no use for the shell until she has made the egg.

Egg-More

is a concentrated food, very rich in protein, and a small quantity mixed with ground grains, or even with bran, is just what is needed to make her molt quickly and then lay lots of eggs. It is made of just such first-class materials and in such proportions as has been proven by long practical experience to serve this purpose, and at the same time to build up her system and keep her in the best of health. When a small quantity is mixed with good grains, or bran, as directed in each package, it can be fed either as a mash or as dry feed. The hens like it, they eat it, there is no waste; it makes the cheapest egg food that can be made, especially if you can buy your grains at home cheaper than to ship them in.

EGG-MORE is put up in 4-lb. packages at 35c; 25-lb. pails, \$2.00; 50-lb. sacks, \$3.75; and is for sale by many dealers. If yours doesn't keep it, or will not get it for you, we will deliver a pail or sack, freight prepaid by us.

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818 San Fernando St. (Through to Alameda) Los Angeles, Cal.

MAIL YOUR ORDERS

at the cost of a one cent (1c) postal card direct to the factory if your dealer cannot supply you with A. C. W. EGG FOOD in 100-lb. sacks or A. C. W. Raw Materials. We will fill your order for one sack as cheerfully as for a 15-ton carload. Our Mail Order business extends into Nevada and Arizona.

We are not jobbers or dealers, but MANUFACTURERS. We manufacture our own Meat Meal, Bone Meal, Blood, Beef Scrap, etc. A Postal card will get our prices and our new 44-page book "Chicken Sense" all about the diseases of Poultry and their cures.

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Manufacturers of Poultry Foods. Established 14 Years



You Can't Escape

the moulting season, but you can assist nature by feeding

Excelsior Moulting Food

Your hens will moult sometime next fall or winter if fed their usual rations but it is money in your pocket to have it over before then. The difference between success and failure in the poultry business is in producing eggs when the price is high. Get your hens to laying early and be sure of a good supply when the price is 50 cents per dozen.

Excelsior Mills, 242 Central Ave., Los Angeles

Feed Excelsior Moulting Food—Control the Mould



THE WHITE WYANDOTTES

THAT WIN AND LAY

\$15.00 and Up Per Dozen

Lakenvelders, per pair, \$8.00; trio, \$10.00.
Mammoth Bronze Turkeys Reasonable.

Mrs. C. D. Hubbard, Box 282, San Fernando, Cal.

Bemis Plymouth Rocks

Barred and White

Prizes Won at Alameda County Poultry Association Show, Oakland, 1907—22 Regular Prizes and 8 Silver Cups. Can furnish best birds and eggs at reasonable prices. No incubators lots furnished

Mrs. Florence E. Bemis, 1757 19th Ave., Oakland, Cal.

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Newest, finest largest, and most central store. Prices the very lowest. Come and see.

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NOTICE In order to accommodate my increasing trade I have secured larger quarters at

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four doors south of Huntington Building, where I am now located with a full line of

Incubators, Brooders, Poultry Supplies and Garden Seeds

Come down; will be glad to see you.

S. H. CHURCH

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GEORGE W. POPPELWELL

Successor to C. H. Robbins

Breeder of White Leghorns, Black Minorcas and Barred Plymouth Rocks. Eggs for hatching, \$2 to \$5 per setting. Single birds, trios and breeding pens a specialty.

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EXCLUSIVELY

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Baldwin's White Leghorns

Fine youngsters at reasonable rates. Good older stock cheap to make room. Full description of stock and price list mailed free on application.

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Cockerels for sale from my best hens. A few Light Brahma Hens and Roosters for sale. Eggs from I. R. Ducks and Blue Andalusians at \$1.00 per setting, \$5.00 per hundred.

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Have for sale Trios, Cockerels and Pullets.

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WHITE, BUFF AND PARTRIDGE Wyandottes

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SHADE'S RHODE ISLAND REDS

The World's best layers.

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Baby Chick, \$2.25 dozen. Eggs half price, \$1 per 15, \$5 per 100. January pullets laying when 17 weeks old. **CANNON POULTRY COMPANY**

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WHITE, BUFF COLUMBIAN WYANDOTTES

And Golden Sebright Bantams, prize winners

Stock and Eggs in season

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The Turlock Journal enthusiastically says "Stanislaus is the banner county of California for pulling money from the soil."

mate up birds, understand loft registers and a thousand and one other things that it will pay the best to learn on a small bunch of birds rather than a large bunch. As a parting word, I would say, apprentice yourself to the industry for one year, and while you will not learn it all, by any means, you will get an insight into it that will help you to succeed.—W. E. Foster, Fillmore, California.

LOS ANGELES COUNTY ASSOCIATION.

The annual meeting of the Los Angeles County Poultry Association corporation was held on the evening of July 20 in the city of Los Angeles. Of the thousand shares constituting its capital stock, 634 were represented at the meeting, including many of the leading breeders and fanciers of this section. The new board of directors chosen is as follows: W. Lewis Sly, Los Angeles; Harry E. Rose, Alhambra; George Shrader, Pasadena; A. J. Little, Monrovia; John D. Mercer, Los Angeles; C. F. Jones of Hollywood and C. D. Hubbard of San Fernando.

The officers elected are: Mr. Sly, president; Mr. Mercer, vice-president; Mr. Hubbard, secretary and Mr. Rose treasurer.

The annual show will be held December 9 to 14 inclusive. It will be judged by comparison.

POULTRY BREEDERS ELECT.

The annual meeting of the Poultry Breeders' Association, of Southern California, was held July 25 in Assembly Hall, Chamber of Commerce building, with about fifty members present. The following officers were elected: President, Dr. C. E. Winslow, Monrovia; first vice-president, L. E. Berkey, Fullerton; second vice-president, Ed. M. Burnell, South Pasadena; secretary, H. A. Meserve, Los Angeles; treasurer, Charles Andrews, Hollywood; board of directors, L. E. Berkey, L. R. Walton, Dr. C. E. Winslow, Ed. M. Burnell, Frank Ironmonger, H. W. Gunston, H. A. Meserve, Charles Andrews and J. L. Harrison.

The second annual show will be held at Chutes Park, Jan. 6 to 12, 1908. It will be a score card show.

EGGS ARE ALWAYS IN DEMAND.

"Been a-thinkin' fer some years,

Wot would happen to us here,

If all the hens should up an' die.

Haven't solved the problem yet,

Whar 'ud be our eggs to fry,

An' delicious omelet.

"Wot 'ud wimmen have to make

Oil of their delicious cake,

An' ice cream, of which they boast?

Whar 'ud be our eggs to fry,

Boil an' scramble, poach, an' roast,

If the hens 'ud up an' die?

"Then the puddin' 'ud be done,

An' the gingerbread, and bun,

Fritter, muffin, johnnycake,

Pumpkin pie we all like so;

Gems, there'd be no eggs to make,

An'—no ancient eggs to throw.

"There'd be no popovers then

Fer to please the kids and men;

Cookies, doughnuts, and the like,

In a long an' endless line;

Every one 'ud up an' hike,

Leavin' us to mourn an' pine.

"Man can imitate the bee,

An' make honey good as he;

'Dulterate most everything.

I don't have to pardon beg—

It is truth, sir; but, by jing,

Science cain't produce an egg!"

NOT EVERYTHING.

"Why do you have everything in your wife's name?"

"I don't. We have our children in my name."

Bees and Their Care

BOTTOM VENTILATION.

IN my last communication, answering an inquiry from my Morgan county friend, I mentioned the ventilation of the hive by inserting a wedge between the bottom board and the brood chamber, writes R. A. Holekamp in Coleman's Rural. This being the season of the year when we may expect hot days, I consider ventilation of enough importance to write about it here more fully.

To prevent swarming at the season of the year when the bees are gathering their main surplus crop is the aim of the beekeeper who prefers honey to increase.

There are different ways of preventing swarming, and it is not the purpose of this article to consider the different treatments given the bees by experienced beekeepers to accomplish this end; ventilation assists in keeping the bees comfortable when they become numerous and to a certain extent prevents or retards swarming when they have been provided with plenty of room in their hives.

The hive bottoms as usually sent out by manufacturers of beekeepers' supplies have an entrance three-eighths of an inch deep. It is made by nailing a strip three-eighths of an inch thick by about seven-eighths of an inch wide on the face of the two long sides of a board of the proper size, while the back end has a cleat which extends three-eighths of an inch above the face of this board, forming a rim on three sides three-eighths of an inch high for the hive body to rest upon, leaving the front open and forming the entrance three-eighths of an inch deep by the width of the hive. In winter and during the cooler part of the year this entrance is ample, but when the hot days of summer come we can see by the action of the bees that they are uncomfortable in their hives.

In late years the manufacturers of bee supplies have sent out bottom boards which are reversible, having on one side a three-eighths inch entrance, while the other side is made for a seven-eighths inch entrance.

Apparently these bottom boards fill the bill. They give the desired large entrance, but there are drawbacks to them. The writer has used a number of these bottom boards, but is discarding them now; he has found that the bees in some cases will build comb under the bottom bars of the brood frames, making it impossible in the fall, when it becomes necessary to contract the entrance, to reverse the bottom board without first taking out the frames and cutting off this comb attached to them. In other cases they will build comb on the bottom board to fill the large space between bottom board and frames and still in other cases again they will build numerous ladders on the bottom board.

Another objection in this locality is that when I wish to turn the bottom board in summer to give the bees the large entrance I find this side which has been on the stand towards the ground covered with a thick coating of all kinds of cocoons and web fastened there by different insects, which to remove causes considerable labor. All these advantages and drawbacks are overcome by the wedge-ventilator, which I will describe here again. I go to the planing mill and order to be cut out of inch boards nineteen inches long, wedges, one inch thick at one end

and running to featheredge at the other. It requires about one inch lumber for a wedge, therefore the expense of having them made is small.

The wedges being prepared, I go to my hives with the lit smoker, blow little smoke into the entrance, insert a large framing chisel and lift the brood chamber in front sufficiently from the bottom board to slide the wedges under it and on top of the 3-8x7-8-inch board on the face of the bottom board described before.

I stated that the length of the boards out of which I have the wedges ripped is nineteen inches. This is one inch shorter than the hive body.

When I slip the wedges under let them reach in the rear only within one inch of the length of the hive, this causes the brood chamber to rest on the wedges and on the cleat at the rear end of the bottom board.

The work of slipping the wedge under the brood chamber requires very little time. I adjust the wedge under a hundred hives in less than an hour, at the same time noticing whether my hives need any leveling up.

I also wish to mention here that enlarging the entrance with the wedges the bees do not build a comb for me under the brood frames nor do they build ladders nor come to the bottom boards, as the frames in the rear of the hive are the same as if their entrance had not been enlarged.

THE PERVERSITY OF BEES.

If bees would only swarm when they had nothing else to do we could look upon the new colony as so much clear profit, but that is just what they will not do. They will swarm only when the honey season is best, and then, day, or, more often, several days, are lost, both by those that go out at those that stay in the hive, just when time is most valuable. Swarming can be delayed or entirely checked by cutting out the queen cells, but this makes necessary so frequent disturbances to the bees by opening the hive and lifting the frames that we sometimes think it is almost as much hindrance to them as to swarming. By having hives all ready and frames filled with old comb, or full sheets of foundation the new colony will be ready for business the next day after they take possession. If bees seem to be clinging to the outside of the hive, as if near ready to swarm, yet do not, feed them at the top of the hive, under the cover and they will go in and proceed to put away the syrup, but will be ready to go when the queen is ready.—Inana Farmer.

This is a good smoker fuel and every beekeeper can have it: It is given in Coleman's Rural. Mix a couple handfuls of saltpeter with a gallon of water. With this solution saturate old gunny sacks thoroughly; wring them dry, and when dry roll them in rolls just thick enough to loosely go into your smoker. Tie these rolls with strings every 3 or 4 inches and shove into cartridges, not quite as long as the firebox of your smoker is deep. Prepare enough of these cartridges to last you all summer, and keep them dry and in a handy place.

EXCELLENT PAPER.

C. T. Ingram, of Pasadena, writes "The California Cultivator is most excellent paper."

Irrigation and Forestry

IRRIGATION CONVENTION.

THAT the work of the Reclamation Service receives criticism and may be worthy of criticism, not unthinkable. That any body of men should take charge of such vast expenditures as has been placed in their hands and not create enemies, is hardly probable. In any case, the criticism is now being given in regard to the Laguna Dam near Yuma. The settlers under the Yuma Valley Consolidated Water Users' Association and has issued a call for a convention to precede the National Irrigation Congress to be held in Sacramento, in September. This convention to be August 31. In the call quite serious charges are made against the service, which it is entirely probable a frank discussion will clear up, and if it does not it will be well to know as to the truth of the charges.

Amongst other charges are these: The Reclamation officials induced the owners of land under the proposed Laguna Dam Irrigation system to sign away their property rights and interests by false promises and misrepresentations, and because of this we have banded ourselves together for self protection, and have formed the Yuma Valley Consolidated Water Users' Association, for the purpose of protecting our rights and getting justice at the hands of the government.

We charge and can prove that the Reclamation Service made false representations to the settlers in the valley in order to secure our signature to a contract whereby we have mortgaged our homes to the government for an unknown amount, and that the estimated cost of the irrigation works to be constructed were grossly misrepresented.

We charge that J. B. Lippincott and his associates representing the government estimated that the Laguna Dam would cost about \$900,000; that a contract to construct the dam was made with a responsible firm; that after doing a large amount of work that firm surrendered its contract sustaining a loss of about \$320,000; that up to the present time there has been paid out on the work of construction about \$920,000, of which amount \$600,000 was paid by the government and the remainder was the loss sustained by the contractor; that the work at this point was about half done. Thus the dam when completed will have cost nearly \$2,000,000, to say nothing of the syphon under the Gila river, the tunnel through the Yuma mesa and the distributing canal system to irrigate the 87,600 acres of land—the total cost of which is now believed will aggregate not less than \$70 or \$80 per acre.

Regarding the aim of the convention, the call says:

In order that all such delegates may have an opportunity to confer with each other and discuss the vital questions in which we are all interested and take appropriate action regarding the subjects discussed, we hereby invite all such delegates who believe that the Reclamation Service should be thoroughly investigated by the government, with a view to correcting the evils complained of in this call, to meet in convention in the city of Sacramento, California, on the Saturday August 31, 1907 at 10 o'clock a.m.

It is proposed to place before this

convention a proposition to memorialize the President to order a thorough examination of the Reclamation Service, to the end that the facts of the case may be made public; that such changes may be made in the personnel of the service as the facts may require, and that proper restrictions may be placed upon the service and proper rules adopted by the government for its guidance that will give the public confidence in this great work of reclaiming our arid lands and making homes for American citizens and their families.

We also ask that steps be taken at such convention to place the entire question before Congress if such course shall be deemed expedient. The convention will also be competent to consider such other questions connected with this subject as may be brought up for consideration and to take such action as the merits of the case may dictate.

L. M. Holt, of Los Angeles, is secretary of the organization.

SUGGESTIONS FOR FOREST PLANTING ON THE SEMI-ARID PLAINS.

The Forest Service has just issued a circular devoted to the interests of forest planters. There is real need for forest growth. By careful selection of the species, the choice of suitable sites, and proper management of plantations, enough forest can be grown to exercise a marked effect upon farm development and to supply wood for most domestic purposes. The object of the circular is to show just what is practicable to undertake in the way of such plantations. Planting may be done for any one of three chief purposes—protection, wood supply, and shade.

A windbreak consists of one or two rows of trees planted primarily for the purpose of checking the force of the wind. The term "shelterbelt" is applied to larger groups of trees, which form forest conditions and serve a protective purpose. Any species which is adapted to the region may be used for wind-breaks. Where evergreens will succeed, however, they are more desirable, since they afford better winter protection than deciduous trees. A windbreak consisting of a single row should be composed of a densely growing species with branches close to the ground.

The main use of windbreaks is to shelter an orchard or a residence site, to prevent hot winds from scorching field crops, and to conserve soil moisture within the protected area. They may also be planted in open pastures for the protection of stock. Incidentally, the windbreak may furnish useful material, but it must be placed where it will afford the most effective protection, without much reference to the character of the soil.

Wherever agriculture is practiced in the plains region, the farmer will find it profitable to devote a few acres of good land to trees. It is true that sometime must elapse before the plantation will become productive, but, by the choice of rapid growing species and by close spacing, the thinnings which will be necessary in a few years will provide material suitable for fuel, stakes, and the like.

The choice of species for this purpose is naturally very limited and will depend somewhat on the location.



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—E. C. Simmons.

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SIMMONS HARDWARE COMPANY (Inc.), St. Louis and New York, U.S.A.

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Barley at Corcoran, Kings County, Cal.

This year barley harvested in the

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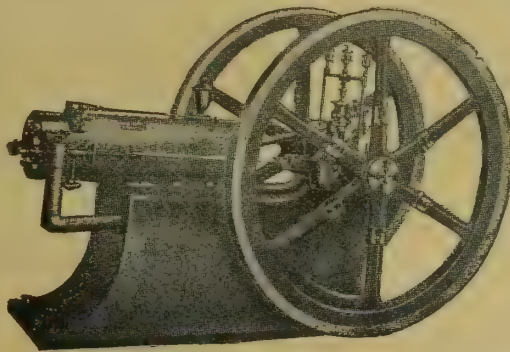
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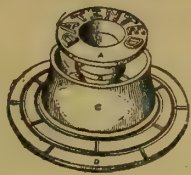
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Trees that grow rapidly and at the same time produce wood of good quality are best. If they also sprout from the stumps, the forest may be made permanent with a little care.

The circular contains suggestions as to the choice of species, with notes on their requirements, and directions for planting and care.



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You and I both know that horses working with sore shoulders are in pain, and that they can't do as much work without running down as when they are free from pain. I also know perfectly well that Security Gail Salve will cure these shoulders, but you do not know it. If you did you would buy a box of your dealer at once and cure them up, for you have no doubt often wished that you knew of something you could rely on. You can rely absolutely on Security Gail Salve. It will do its work every time, or if you prefer to try it first I will mail you a sample can free. Just write for it—it will go to you on first mail.

Also I want to tell you that Security Antiseptic Healer is as good for barb wire cuts as Security Gail Salve is for harness galls. Dealers carry them in 25c, 50c and \$1.00 sizes. Use them for your needs; I guarantee you perfect satisfaction.

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Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Callas not Blooming.

I came from the East a couple of years ago where all flowering plants had to be lifted. Since coming to California, I have a row of Callas and I hardly understand their culture. They bloomed freely last winter, then the leaves died down and though they have plenty of water, do not start again. Should I have taken the bulbs from the ground when they quit blooming? Should they be divided this fall? Do they need a fertilizer?—Mrs. L., El Centro.

It does no harm to give the Calla a well-earned rest through the summer. As a rule, however, if given plenty of water, they will bloom, though much less profusely, through the summer. But in your section the greater heat may prevent it. They love the shade, which, if you can give them with plenty of water, you may keep in bloom all summer. We note that you say you have watered well. But have you? That is, have you soaked down deep into the soil? A soil that has had no rain for months and greedily takes away every drop of a light, ordinary irrigation. Soak, mulch and shade for summer growth.

You may divide or not as you prefer, but it is not necessary unless they have been in ground three or more years. Fertilizer may be given to encourage larger bloom, but in your rich soil should not be necessary. A row in the garden of the writer is yet blooming, but the larger and finer blossoms, but the larger of a large tree.

Your strawberry query will be answered by Mr. Lobingier later.

Not Shot-Hole Fungus.

This department recently had a query as to plum leaves, which had holes and burned spots much resembling shot-hole fungus. In answering those the suggestion was made that early application of Bordeaux this fall might be of value. The query was sent to Prof. Ralph E. Smith and he replies as follows:

"I have recently been up in the Fresno region looking into the leaf-spot trouble of plums to which you refer in your letter of the 22nd inst., and also had the same thing come up last year. It looks very much, as you suggest, like a shot-hole fungus effect, but I find that the disease is not due to any fungus or parasite at all, but is an effect of entirely different agencies.

"This trouble is an effect of unfavorable water conditions in the soil, coupled very often with alkali injury. In many parts of the San Joaquin they have had a very unstable water level in the soil in recent years, the water rising and falling suddenly and very decidedly. The roots of the trees which normally have been growing in rather dry soil near the surface have been submerged in water, then perhaps dried out again, and then submerged again, especially in the last two wet springs. This has been particularly disastrous in the poorer drained regions, where water accumulates and does not run off readily.

"Spraying is of course quite useless for this trouble, and nothing can save trees which are too badly affected. In case they are not so far gone, showing only die back in the top and spotting and dropping of the leaves, I have advised cutting back quite heavily in order to give the roots a chance to renew themselves and hoping to form a new top in case the

unfavorable conditions do not occur soon again."

Bringing to Her Milk.

Our cow, bred last September and milked up to a couple of weeks before freshening, but now gives hardly any milk. She seems to feel good and is getting fat. She is staked on alfalfa; when milking her we give her a little wheat hay, carrots or parsnips. Please advise me what to do to get her to give more milk if there is any way, and how much milk should a calf have and how often, and is there anything else I could give it? Cow ate after birth; would that have any effect on her. Her bowels move freely.—Mrs. C. W.

This cow should be fed on a mash of bran salted and made as wet as she can be induced to take it. Adding a little oil cake will help. Cut down the wheat hay as much as possible; keep water before her all the time as the salted bran will induce thirst, and the more water she drinks the better for the milk secretion. In last week's Cultivator you will find a like case the full description for manipulating the udder to help the flow. Give the calf new milk three times a day for the first week then add skim milk and hay tea. The hay tea is made by covering alfalfa hay with hot water for half an hour; add this to the skim milk and feed it warm. A tablespoonful of flaxseed meal cooked to a gruel and added will perfectly supply the nutriment. Feed a calf only until its sides are level, not puffed out; indeed there is more danger of over-feeding than under-feeding. Have the calf in a shed away from flies and keep in the shed a manger with some dry bran slightly salted and plenty of fresh drinking water.

It is natural for a cow to eat the afterbirth. This one of Nature's wise ways that we do not understand. Darwin suggests that it was at first a way of protection, as the odors were destroyed, and the wolves could not smell the fresh blood and seek the calf. It will always be considered as showing that there is a Divine mind somewhere that cares for the animals, when we consider the wonder of a grass-eating animal turning to meat eating for once on the occasion of its motherhood.

Crude Carbolic Acid.

I am advised to use crude carbolic acid for a disinfectant and lice killer sprayed on hen house. Will you please tell through the paper where I can get crude carbolic acid, as the local dealer here seems to know nothing about it, and about what will it cost per gallon.

You can get crude carbolic acid from poultry supply houses or at nearly any drug store. It should be diluted with water about seven parts to one of acid.

Book on Soils.

Will you please recommend some good book, for a beginner, on the composition and treatment of different soils?—H. G., Rialto.

"Soils," by Hilgard, published by McMillan Co., New York, is a scientific presentation of the subject.

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General Agriculture

THE SAN JOAQUIN RIVER.

THE value of the commodities last year carried over the San Joaquin river between here and Stockton over \$28,000,000, as computed by Stockton Chamber of Commerce, is the editor of the San Francisco Chronicle.

The tonnage of the vessels one way the year aggregated nearly 512,000 tons net. And yet, in spite of this very large traffic, no seagoing vessel can reach the Stockton wharves. This is particularly onerous in the case of lumber and similar materials for which there is a large demand at Stockton and the territory tributary to it and which must all be reshipped to this city.

That condition ought not to exist. It may appear to be advantageous to the merchants of this city, but probably it is not and, at any rate, it is unprofitable to Stockton and the people of the San Joaquin valley. It may not be profitable and, at any rate, it is not proposed to make Stockton accessible to deep-sea ships, but it is proposed to dredge a channel to fifteen feet, which will admit most coasters. The result will be to cheapen lumber and many other commodities in Stockton and promote commerce between that port and the Coast points. It will enable the shipping interests to reach all Coast points direct and, in fact, all points which can be profitably reached by ships drawing not more than fifteen feet.

What that is required is the dredging of the channel seven miles through the flats from deep water on the San

Joaquin to Stockton. Congress at its last session ordered a survey of this channel preliminary to the actual execution of the work, which will presumably be ordered in due course in the next river and harbor bill, and perhaps at the coming session.

If there is water to fill the channel, if made, the dredging should be continued some distance up the river. All the railroads of the country are choked with traffic and every waterway that is worthy of improvement should be made available. Doubtless in the San Joaquin valley water is more valuable for irrigation than for navigation to the extent that it is required, but a channel is worth making even for use only half of the year. Whenever a channel can be made which can be traversed by flat-bottomed steamers or barges, even for only part of the year, the work should be done, whether on the San Joaquin river or elsewhere.

PREVENTION OF SORGHUM AND KAFIR-CORN SMUT.

The most common smut of the cultivated sorghums is what is known as "grain smut," caused by a fungus allied to the smut of corn, and which grows entirely within the tissues of the plant, becoming externally evident and most active in the flowering head, where it consumes the food material intended for seed formation. At maturity the affected heads considerably resemble normal heads in appearance, but in the interior the seed kernels are almost entirely replaced by a mass of olive-brown, dusty "spores," the reproductive

bodies of the fungus. These spores germinate when the seeds are planted, sending forth slender germ tubes, which infect the young germinating grain by growing into the delicate tissues. Within the host plant, the fungus consists of very minute, slender threads, the mycelium, which penetrate all the soft parts of the growing stem. The results of the activity of the fungus do not become manifest until the head appears. The injury done lies in the destruction of the developing seed, and (in sorghum) in the reduction of the sugar content of the stalk. The Jensen hot-water treatment of the seed has been found effective, but it is cumbersome and inconvenient of application.

Experiments this season, conducted by the Botanical Department of the Experiment Station, indicate that formaldehyde is an effective means of prevention when the smutted seed is soaked for twelve hours in a solution of one-fifth of one per cent of formaldehyde in water (one pint of formaldehyde to sixty-two gallons, three pints of water), or for two hours in a solution of one-half of one per cent of formaldehyde in water (two pints of formaldehyde to forty-nine gallons, three quarts of water).

The check plots in this experiment yielded 33.4 per cent and 27.8 per cent of smutted stalks, respectively, as against none at all for the same seed treated with the percentages of formaldehyde mentioned. On account of the lesser time required for soaking, the second or stronger solution is recommended. After soaking, the seed should be spread out upon a clean floor and turned occasionally until dry.

Commercial formaldehyde is for-

maldehyde gas held in water to saturation. Such a solution has a maximum strength of 40 per cent. The percentage solutions recommended in this bulletin are percentages of the 40 per cent solution.

In treating the smutted seed, allow three pints of the formaldehyde solution as made up, to cover four and one-half pounds of the seed, or about four and one-half gallons to the bushel of seed. The same liquid may be used over and over again, so long as the seed is kept covered. The most satisfactory method of procedure is to hang the smutted seed, enclosed in a loose burlap bag, within a barrel into which the formaldehyde solution has previously been poured. Cover top of barrel to retain the fumes of escaping formaldehyde gas as much as possible.

Forty per cent formaldehyde is a liquid retailing at thirty-five cents per pound (pint). The cost of the treatment by using the one-half of one per cent solution would be about six cents per bushel of seed for the formaldehyde used.—H. F. ROBERTS of Kansas State Agricultural College.

TUTTLE'S ELIXIR.

130 West 14th Street.

Los Angeles, Cal., March 4th, 1907.
TUTTLE'S ELIXIR CO.

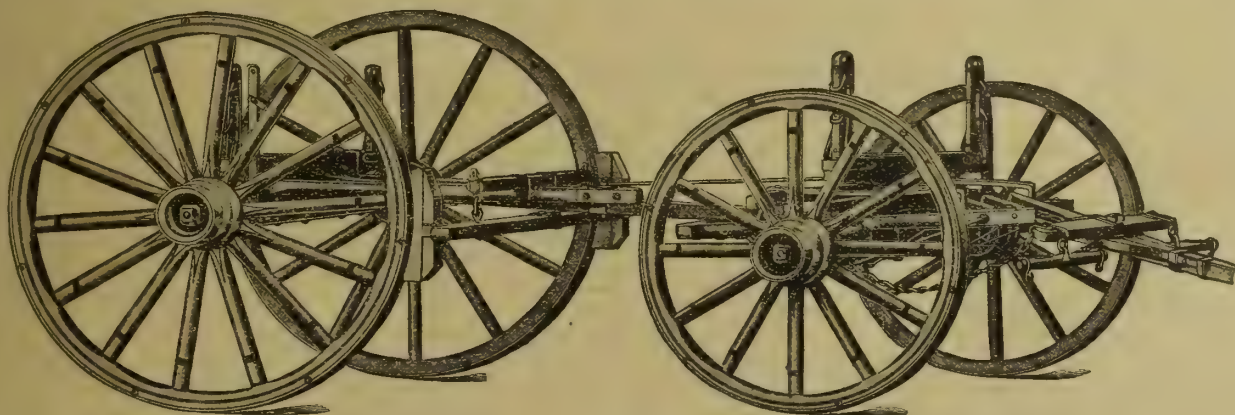
GENTLEMEN: I have used Tuttle's Elixir for three years and it is the best Liniment for any kind of soreness or swelling that I have ever used. I buy it by the case and would not keep a stable without it.

Yours truly,
C. A. Holcomb.

Dealer in HIGH-CLASS HORSES,

Kings county has a Promotion Association.

Studebaker Wagons



No one ever claimed to build a better wagon than the Studebaker.

Why?

The originator of California Wagons was Mr. J. M. Studebaker, President of the Company, who worked as a wagon maker when in his shop in the mines in this state.

They last longer and run easier than others because he designed them to withstand the peculiarities of our climate and proportioned them properly to carry the heavy loads common to this section.

Our stock is complete. We can furnish wagons of suitable size for any work.

Let us show them to you at our salesrooms,

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Quality wins. We are registering students daily. Placing graduates in good positions. Write us. We will help you.

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614 S. Grand Ave. Los Angeles
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Business-trained, certified, degree faculty. Newest, finest, best-equipped building of its kind in Los Angeles. Day and Evening Sessions throughout the year. Send for Catalog.

Kellogg's Ant Paste

Lompoc, Cal., July 19, 1906.
Mfr. Kellogg's Ant Paste:

Dear sir—I have been tormented with ants for years and they seemed to get worse every year. I saw your ad in the Cultivator and sent for a bottle tho' I admit I hadn't much faith in it. In fact, kept the bottle in house a week before I tried it. One afternoon I used the Ant Paste according to directions and the ants didn't pay much attention to it and I thought it was a failure like everything else I had tried, but next morning there wasn't an ant in the house. I could hardly believe it. It seemed like magic. I wish every one bothered with ants could hear of and use Kellogg's Ant Paste.

Mrs. Francis Burbridge.
Note to Druggist—You can get this from your Supply House, or write to the manufacturers,
1010 E. Ninth St., Los Angeles, Cal.

BEST PILL ON EARTH
People who are sick with dyspepsia, headache and biliousness, having yellow complexion and pimples, do not want to experiment, but want a medicine that has had the test of time. We have cured these diseases for 25 years with DR. GUNN'S IMPROVED LIVER PILLS. They drive out the cause of sickness, making the complexion clear and healthy. 25cts. a box at druggists, or by mail. Write Dr. Bosanko Co., Philada., Pa. Sample Free.
ONLY ONE FOR A DOSE

JAMES R. TOWNSEND

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Household Department

IN THE COUNTRY WHERE DREAMS COME TRUE.

Afar in the misty distance,
Quite hidden from curious view,
The home of my heart is waiting
In the country where dreams come true.

Its walls are not bricks and mortar,
But shapely and perfect it grew;
For fancies are firm foundations
In the country where dreams come true.

O, it isn't a stately mansion;
There's only just room for you;
But there's many a precious jewel
In the country where dreams come true.
When the nights are long in passing,
And days are vexatious, too,
I think of the treasure waiting
In the country where dreams come true.

Then the darkest nights grow golden,
For I'm living alone with you
In the home that my heart selected,
In the country where dreams come true.

—Ella Middleton Tybout in Lippincott's.

TOMMY AND THE TIGER.

Continued from Last Week

THE kitchen door was open and the warm sunshine streamed across the floor. She stretched in this sunny pathway and lay there her yellow eyes on the boy and her heavy tail thumping the floor.

"Hungry, kitty?" the boy asked her.

The tiger purred and yawned again with a great display of red mouth and yellow fangs.

Tommy took the saucer of cookies from the table and emptied it close to her. She ate them greedily. Then he remembered there was some cold meat in the pantry. As he lifted it down from the shelf he looked around. The tiger was standing in the doorway watching him. He gave her the meat and she speedily cleared the plate.

Then it occurred to Tommy that she might be thirsty too. The pump was on the porch close to the kitchen door. There was a pail beneath the spout. He went out and filled it and the tiger waited for him in the doorway. He brought the pail into the kitchen and she drank greedily.

Then she laid herself down in the sunshine again and there being nothing further for Tommy to do he sat there in his mother's low rocking chair and watched her.

It was a warm day and there was something soothing about the heavy air. Tommy had quite recovered from his fright. He felt almost comfortable. The reaction from the agitation made him strangely tired. The bit of the sky he could see through the open door wavered and swayed, the stripes on the tiger's coat seemed to run together, his head nodded forward and then nodded back—and stayed there. Tommy was fast asleep.

He was awakened by a strange sound of swishing water. He opened his eyes quickly. The tiger was finishing the water in the pail.

Then she looked around and saw that he was awake and purred as if in satisfaction. And suddenly a great idea came to Tommy's refreshed mind.

It was a great idea, and it was a daring idea. He would earn that \$100.

He remembered what his father had said about the doctor's bills and

the taxes. A hundred dollars would be a great help. He was no longer afraid of the tiger. She was no more to him now than a clumsy kitten. He arose and took his hat from the nail behind the outer door. The tiger watched him lazily.

"Come, kitty," he said.

She slowly arose and stretched herself and noisily yawned. Then she followed him down the steps and into the driveway. He walked by her side, his right hand resting lightly on her back. She turned when he did and the two paced along the highway toward the village—the tiger taking long strides and the boy at times trotting to keep up with her.

They had covered half the way when the boy heard a voice somewhere back of him.

"Don't look around, boy," it said. "Keep straight ahead. You're all right. Don't worry. I'll be right here. I've sent a man around to clear the way. All you've got to do is walk right along. Her name is Minnie."

At the sound of this voice the boy felt the fur beneath his hand stiffen, and the big beast gave a low growl, her tail swinging angrily.

"All right, Minnie, all right," said the boy.

She turned her head and her yellow eyes looked up at him.

"It's all right, Minnie," he soothingly repeated.

She seemed to quiet down at the sound of her name, and the two steadily neared the village. They met nobody, a fact that the boy attributed to the messenger who had gone ahead.

The big tent was set in the outskirts of the town, just at the foot of the hill. As the boy neared it he noticed an animal wagon with its sliding door opened and a slanting runway of heavy boards at its side.

"To the wagon, boy," came the voice from behind him. "Steady. Now say, in, Minnie, in! Say it loudly."

"In, Minnie, in!" cried the boy.

The huge beast seemed to hesitate for a moment. Then she sprang up the runway and into the cage. The sliding doors were closed as if by magic—although the dark man with the big hat seemed to have something to do with it.

For a moment the tiger was quiet. Then she roared and leaped about madly and flung herself fiercely against the bars.

"You don't get away again, old lady," said the dark man.

He laid his hand gently on Tommy's shoulder. Tommy looked up at him. The dark man was wiping his face. He seemed much excited.

"That was fine, laddie," he said. "You're a brave little man." Tommy flushed beneath the stranger's searching gaze. "Come here, Jim," the dark man called and another dark man, a dark man in a jacket with stripes of yellow braid upon it, came towards them. "Who is he like, Jim?"

The man in the braided jacket stared at Tommy.

"He's a good deal like little Joe."

"That's it," said the other man. "That explains it. That's the reason she took to him. She thought he was little Joe." He drew a quick breath and turned to Tommy. "Joe was my boy," he said. "He—he is gone

now." His voice broke a little. "Joe and Minnie were great friends. He could do anything with her. You are very much like him." He turned away abruptly. "Come, my boy," he said, "I'll take you home."

The ride behind the glossy black horse was altogether too short.

"I'd like to see your father," said the dark man when they stopped in front of Tommy's home.

"He isn't home, sir. He and my mother went away. I expect them back before supper time."

"I'm a man of my word," said the stranger. He drew a roll of bills from his pocket. "Here's your hundred, my boy, and I think I'm getting off cheap. Tell your daddy to take care of it for you. And here—here are three seats for the show tonight. Come and bring your folks and I'll see that you don't miss anything. Goodby."

Tommy's father and mother came home before supper time. The old uncle was much better. And Tommy saved his wonderful story until they were all at the supper table.

His chance came when his mother beamed at him affectionately.

"You must have been very hungry Tommy," she said. "I notice that you ate all the cold meat."

"The tiger ate that," said Tommy simply.

"The tiger!"

Then Tommy told them the story. When he had finished there was a little silence.

"The boy's been reading too many fairy stories," muttered Tommy's father.

"I shouldn't have gone away and left him," said Tommy's mother. And there were tears in her eyes.

Tommy stared from his father to his mother. "Don't you believe me," he asked and his face flushed. "Why look here, papa, here's the money the man gave me—and here are the tickets to the show!"

And he spread his treasures on the table.

Tommy's father looked at the money and the tickets and he looked at Tommy and then at Tommy's mother.

"Please can't we go, papa?" the boy timidly asked. "It's a splendid show and the man wants to see you."

Tommy's father looked at Tommy's mother once more. Then he drew long breath.

"Yes, Tommy," he slowly said. "we'll go."—W. R. Rose, in Cleveland Plain Dealer.

FAMINE IN HUMAN HAIR.

The enormous feminine demand for artificial coils and toupees is leading to a famine in human hair. Formerly Swiss, German and Hungarian girls supplied the world of fashionable women with luxurious tresses of all tints. But the governments of many countries are now making illegal for a girl to sell her hair for any agent to buy it. The supply in consequence, is running out and the prices of real hair are trebling. A series of successful experiments says the London Daily Mail, point spun glass as the most effective substitute for human hair. Wigs made from spun glass are light and soft and the texture is soft and beautiful. It is easy to produce any shade desired, while curls and waves can be manufactured at will to suit the fashion of the moment. The imitation is so realistic and true to life that it is impossible to detect the difference between it and real hair grown on the head.

Can't Can Any More

Peaches and Cherries
Plums
And
Strawberries,

Apples and pears by the score;
Logan and blackberries,
I am made of hackberries,
nectarines, quinces, galore.—
Tearful with peeling them,
Frustrated with sealing them,
Dear! I can't can any more!

Apples and Cherries,
Pears
And
Gooseberries,

Squats and guavas to stow;
All there that I want,
Raspberries, pie-plant,
Jellies, and jams in a row.—
I fill with this toiling,
With burning and boiling,
Into the store-house they go!

Orange and Lemon,
Fig
Persimmon,

Onions, and cucumbers hoar;
Slices, cut in slices,
With vinegar, spices,
Sweet pickles, I see a full score;
Butters, and marmalade,
Preserves.—My hand is stayed,—
I surely can't can any more!

—M. E. Dudley.

RECIPES.

Summer Dainties.

Delicious lemon honey for filling
pies or sandwiches may be made as
follows: Scrub clean and grate the
rind of three large lemons. Press
out and strain the juice of the lemons
and put all together in a double boiler
with a quarter cup of butter and
one-half pound sugar. When the
mixture is very hot, mix two spoons
of the well beaten yolks of six
eggs and add this to the whole, stir-
ring until cooked thick.

But strips are as toothsome as
pies are simple to make. Beat two
eggs with half a pound of light
brown sugar and a cup of broken
walnut meats. Sift five level
spoons of flour, with a pinch of
baking powder and a quarter tea-
spoon of salt twice. Stir all to-
gether and bake a light brown in a
moderate oven, cutting in strips
when cold.

quarter pints of double cream and a
cup of grated cocoanut. Flavor with
cherry extract, set the bowl contain-
ing the mixture in a pan of cracked
ice, beat steadily until the cream is
as thick as cake batter, then pour
into small molds. Before serving,
remove part of the jelly from the
center of each mold and fill with
pitted and sweetened cherries, gar-
nishing with sprays of the fruit.

English toast is not so popular as
it should be for a breakfast course.
To prepare it toast as many slices
of bread as needed and keep warm.
Separate as many eggs as there are
slices, keeping the yolks without
breaking. Beat the whites and shape
a cup on each slice of toast, dropping
a yolk into the center. Set the pan
of toast into the oven until the eggs
are cooked, pour melted butter over,
sprinkle with salt and pepper and
serve hot. The toast should, of
course, be buttered. And by the
way, making toast is a science many
cooks have not learned. Most of it
comes under the hardtack class.

HOMELY HINTS.

Rub bread and meat boards with
cut lemons, then rinse thoroughly
with cold water. It is much better
than scrubbing.

If the upper edge of the saucepan
is well buttered you will find that
chocolate, milk, cocoa, or anything
of the kind will not boil over.

Orange peel, dried and grated,
makes an excellent powder that is de-
licious flavoring for cakes or pud-
dings.

Good cooks know the value of a
few drops of glycerin added to the
flour in cakemaking, in the propor-
tion of a teaspoonful to every pound
of flour. This makes the cake light
and feathery. Three teaspoonfuls to
every pound of fruit in making pre-
serves prevents the fermentation of
the sugar and obviates all dangers of
crystallization.

The death dealing frying-pan
should be banished from every kitch-
en. Broiling requires less time and
labor, besides being far more cleanly
as to kitchen and utensils. When
steak is to be broiled have the pan,
which should be a heavy cast one,
when soapstone is not available,
very hot—almost to redness. Have
the steak well trimmed and pounded.
The broiling pan should be three
times as large as the steak and
should be well wiped with a clean
rag. Apply the steak and press it
down with the flat side of a case
knife so as to bring as much of the
surface as possible in contact with
the hot iron. At first it will adhere
to the iron, but will loosen its hold
in about forty seconds, when it
should be turned over and applied
to another part of the pan. After
this it may be turned at will and its
position changed until cooked to
taste. When done put into a dish,
sprinkle with salt and pepper, a very
little vinegar, smear with butter and
eat while hot, for it is too good a
thing to admit of delay. Those who
value health should never eat meat
fried in grease.

My wife and I sat at the window one
day

Stood watching the organ man's
monkey,

When a cart came along in which a
boy

Sat driving a long-eared donkey.
Said I to my wife by the way of a
joke:

"There's your relatives in that
carriage."

She glanced at the donkey and made
reply:

"Ah, yes—we're related by mar-
riage."

—Chicago Daily News.

Largest National Bank West of Denver and South of San Francisco

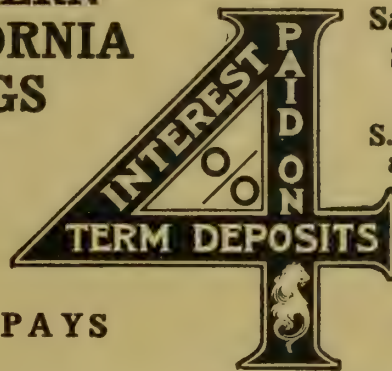
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of the Los Angeles Trust Company and the Metropolitan Bank and Trust Co., and held by the
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We are prepared to extend to the small depositor the same per-
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Sold on **Five-Year Guarantee** as to
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Have your own Gas Plant and be In-
dependent. For printed matter, prices,
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A GOOD WATCH

Especially Adapted for Hard Service

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rature, compensation balance, patent micrometric
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16 Size, Large \$9.00
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Yourself an Acetylene Gas Machine that you may have
the conveniences and pleasure of the best known light
and gas to cook and iron with on the hot days that are
coming. We have a good machine that works right, and
our best friends are our customers. We want more
friends! You will be one if we serve you! Write to
us just as though you had known us all your life, and we
will be glad to answer or send some one to see you.

Yours for light,

20th Century Light Co.

609 E. Seventh St., Los Angeles, Cal.

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Liner Advertising

Advertisements in Liner Column 1 1/4 cents per word. Eight words to a line. No advertisement taken for less than 25 cents.

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AT REDUCED PRICES BALANCE OF season from by prize winning Barred Rocks; won all special and 13 regular prizes on Barred Rocks at late Los Angeles show. Eggs from best pens, \$2.50 per 15; \$10 per 100. Can furnish any quantity. Also offer extra bargains in breeding stock. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

S. C. WHITE LEHIGH EGGS FROM THE bred-to-lay Blanchard strain. Large Birds. \$1.00 for 15; \$6.00 per 100; Free city delivery. C. M. GIBBS, R. F. D. No. 4, Los Angeles, Cal. Phone W. 591.

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75C EACH, FOR SALE, 75C EACH. Indian Runner Ducks; Laying ducks one and two years old or young stock to lay in October. CLYDE J. MOSS, Corona, Cal. Star route.

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JUBILEE POULTRY FARM, 80 ACRES, well improved, 2000 healthy chickens, horses, cow, implements, vehicles; 6 large incubators and brooders; pumping plant, \$7500 takes crops and all; a snap; easy terms. WM. MANTZ, Santa Maria, Cal.

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3000 GOOD, THRIFTY WASHINGTON NAV-EL and Valencia late trees; 1 and 2 years old; at the right price. Free of scale and smut. C. D. HUBBARD, San Fernando, Cal.

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FOR SALE—A first-class Pure Bred Ayrshire bull calf, 5 weeks old, eligible for registration. Address, T. F. LESLIE, Rd. No. 1, Santa Barbara Cal.

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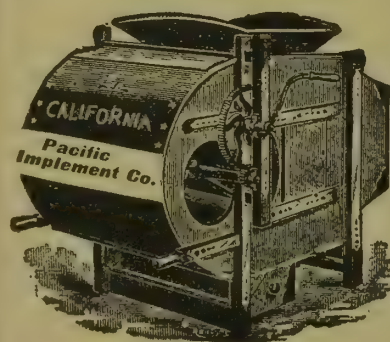
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FOR SALE—25-H. P. FAIRBANKS-MORSE distillate engine as good as new, at a bargain. 117 BRUNO ST., Los Angeles.

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"The California"

This is one of the most powerful and complete cleaners in the market, and is known as a double blast fan mill. The first blast operates as the grain passes in showers through the sieves, and in this operation the chaff and light stuff is removed. The second blast operates as the grain passes off the last screen in a thin stream and at this time the heavier particles are removed. These mills are arranged to clean beans.

We are also agents for the

Western Fanning Mill

This machine is not only a cleaner but likewise a perfect separator and in this respect will accomplish what no other machine on the market will do. Separates wheat, oats and rye, clover and timothy and makes them marketable in their class. Separates cheat and cockle from wheat. Separates wild oats from wheat, barley and large tame oat. Separates barley from wheat, and rye from wheat. Equipment is five screens and sieves, one-wheat zinc hurdle, a chess-board, tail-board and spout suitable for all requirements of a farmer. Will clean alfalfa seed perfectly. Will clean and grade beans. Alfalfa and bean screens are extra.

Pacific Implement Co.
133-153 Kansas St., San Francisco, Cal.

The Produce Markets

Los Angeles

Markets

LOS ANGELES, Aug. 7.

Butter.

Butter still stands at 65 cents for extra. The receipts are heavy for this time of the year, but it is claimed there will be no immediate change in quotation. Average daily receipts of butter in this city are about 18,000 pounds.

Creamery extra.....@65
Creamery first.....@60
Dairy.....@55
Cooking.....@23 1/2

Cheese.

Cal. Young America, per lb.....@19
Hand.....@20
California Anchor.....@17
Cal 3-lb. hand.....@20
Northern fresh.....@17
Domestic Swiss.....@23
Imported Swiss.....@30 1/2

Eggs and Poultry.

Eggs still stand at last week's quotation though the market is weak. The local fresh ranch are held down by the storage which are continually dumped on the market. Speculators who are holding the storage are maintaining the present price in their own interest, but there is little promise of immediate rise.

The prices given are those of the commission man to the retailer.

Eggs local candled.....@28 1/2
Eggs case count.....@26 1/2

Fryers and young roosters have declined a cent a pound. Other quotations on poultry practically the same.

The following are average prices which dealers pay to producers for live weight.

Hens per lb.....@13
Young roosters per lb.....@14
Fryers.....@16
Broilers per lb.....@17
Old Roosters.....@8
Turkeys.....@17
Geese.....@12
Ducks.....@11
Squabs per doz.....@1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.
Hogs, from 175 to 200 lbs.....@7 1/2
Prime steers.....@4 1/2
Heifers.....@3 1/2
Calves, per lb.....@4 1/2
Sheep, ewes, per head.....@4.75@5.25
Lambs, per head.....@4.00@4.50
Wethers.....@5.50

Potatoes.

The potato market shows a much stronger tone than last week, owing to shortage which now prevails. The market is almost bare owing to the discouraging shipments. If care is maintained now for a time in not shipping in too heavily the former firm tone may prevail. Quotations are the same as last week. Sweet potatoes will probably lower in price very soon.

Early Rose.....@1.75@1.85
White.....@1.90@2.00
Local Burbanks.....@2.00
Sweet potatoes per lb.....@.8 1/2

Onions.

Onions are slightly lower than last week, but still maintain a strong tone. Silverskins per ctl.....@2.85@3.00
Australians.....@2.75@3.00
Imperial per sack.....@4.00
Yellow Danvers.....@2.85@3.00
Garlic.....@2.95

Vegetables.

Vegetables are weaker in tone with big supplies on hand. Prices are shaded but little, but quality has to be the best to command quotations.

Asparagus per case.....@3.50
Artichokes.....@.65@.80
Beets per doz.....@.10
Bell peppers green lb.....@.50
Beans wax.....@.50
Beans Lima.....@.60
Cabbage sack.....@.50
Chili peppers green.....@1.00@1.50
Cucumbers per 20-lb box.....@1.50@2.00
Corn per box.....@.35@.50
Cauliflower.....@1.25
Carrots per doz.....@.20
Egg plant per lb.....@.15
Green Onions, doz bunches.....@1.00@3.00
Mushrooms per lb.....@1.00
Lettuce per crate.....@.50
Pie Pumpkins.....@.1 1/2
Okra, per lb.....@.20
Rhubarb per box.....@.50
Radishes per doz.....@.15@.20
Spinach, per doz.....@1.00@1.15
Summer squash crate.....@1.50
Tomatoes per box.....@2.00@2.50
Turnips, doz bunches.....@4.00
Water Cress per hundred.....@4.00

Citrus Fruits.

Valencias.....@1.50@2.75
Seedlings.....@1.25@1.50
Grapefruit Seedless.....@2.00@2.50
Grapefruit Seedlings.....@1.25@1.35
Lemons, fancy.....@2.00
Lemons, choice.....@1.25@1.50
Tangerines, halves.....@1.50@1.75

Fresh Fruits.

Fruits are holding up quotations and the market is very firm though fair supplies are in sight.

Apples Red Astrachans box.....@1.00@1.25
White Astrachans.....@.25
Peaches.....@1.75@2.00
Crab apples.....@1.00
Apricots.....@2.25
Blackberries.....@.60@.80
Cantaloupes crates.....@1.00
Figs black per lb.....@.50@.60
Figs, white.....@1.10
Grapes, per 4 bskt crate.....@1.30@1.75
Gooseberries per lb.....@.25
Huckleberries lb.....@.20
Logans.....@.70@.80
Nectarines.....@1.25
Pears.....@2.25
Peaches per box.....@.65@.75
Plums Simonas.....@1.15
Plums Tragedy.....@1.25
Sugar Prunes.....@.90
Raspberries.....@.50@.59
Strawberries.....@.30@.36
Watermelons per lb.....@.01

Dried Fruits.

Dried fruit market is indifferent because of there being so little fruit that there can be but little interest. One broker, formerly handling large quantities of fruit has closed shop and left for want of business.

Evap. apples fy per lb.....@8 1/2@11
Apricots.....@20@25
Peaches.....@11@13
Pears.....@13
Nectarines.....@14

Beans, Dried

Limas per ctl.....@5.30
Pink No. 1.....@3.00
Lady Washington.....@2.90
Small White.....@2.20
Black Eyes.....@5.50@6.00
Garvanzas.....@5.75@6.00
Lentils.....@12 1/2@15

Honey

The prices we give are those at which the jobber sells to the grocer in small lots. The producer should take from this one cent a pound commission and freight to Los Angeles, and there will remain the net returns to him.

Extracted White.....@6
Light Amber.....@5 1/2
Comb, water white, 1-lb. fms.....@12@15
Light Amber.....@10@12

Nuts.

Almonds per lb.....@19@25
Peanuts, Virginia.....@9
Peanuts California.....@6@7
Walnuts, No. 1 S. S.....@14@15

Hay.

Barley No. 1.....@13.50@15.00
Barley No. 2.....@10.00@11.00
Alfalfa Northern per ton.....@12.00
Alfalfa new local.....@11.00@12.50
Plain oat No. 1 new.....@13@14
Wheat No. 1.....@12@14

Grain.

Purchasing prices f. o. b., Los Angeles are:

Wheat, new, per cwt.....@1.70@1.75
Wheat, Sonora.....@1.62 1/2@1.57 1/2
Barley.....@1.17 1/2@1.22 1/2
Corn, Eastern, sacked.....@1.50

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn.....@1.65
Shorts.....@1.45
Bran.....@1.30
Egyptian corn.....@1.65
Rolled Barley.....@1.40
Feed meal.....@1.70
Kaffir Corn.....@1.65

SWEET BUTTER.

If the butter maker desires to keep butter fresh these days, she must take lots of pains with the cream, in the first place. It should be sweet and free from odor. When the churn has been thoroughly cleansed and cooled, turn in the cream and keep the crank going until the butter comes. Then work the butter well and salt only lightly. Make a brine of water to which is added enough salt to hold up an egg. Boil and skim so long as any matter collects on the top. When perfectly cold, wrap the butter rolls in clean cheese cloths and drop in the brine. Set in a cool place and it will keep for a month without becoming rancid. Our mothers used this rule and we know they had sweet butter.

San Francisco Markets

SAN FRANCISCO, Aug. 6, 1907.

Butter.

Another half cent rise in butter is noted this week with market firm.

California extras.....@23
California firsts.....@22
California seconds.....@21
California thirds.....@20

Cheese.

California Young American fy.....@14
California flats fy.....@14
Eastern fancy.....@13
Oregon fancy.....@12

Eggs and Poultry.

Eggs show a slight decline on fresh ranch, but market is firm.

Fresh ranch eggs.....@22
Eggs first per doz.....@23
Eggs seconds per doz.....@19 1/2
Eggs thirds.....@19

Hens, per doz.....@5.00@5.50
Hens large.....@5.50@6.00
Young Roosters.....@6.50@7.00
Old Roosters.....@4.00@4.50
Fryers, per doz.....@4.50@5.00
Broilers, per doz.....@2.50@3.00
Ducks, young.....@4.00@5.00
Geese, per pair.....@1.50@2.00
Turkeys, per lb.....@1.60@1.80
Pigeons.....@1.25@1.50

Live Stock.

Steers No. 1.....@7 1/2
No. 1 Cows and Heifers.....@6 1/2
Hogs 80 to 200 lbs.....@7 1/2
Hogs 200 to 300 lbs.....@7 1/2
Calves, per lb.....@6
Lambs, yearlings.....@6
Wethers, No. 1.....@6
Ewes, No. 1.....@6

Potatoes

Potatoes are in larger supply and still rather weak in tone and quoted materially lower than last week.

River Burbanks.....@2.25@2.50
River whites.....@.60@.70
Early Rose.....@1.00@1.10

Vegetables.

Sales of vegetables are moving slowly. Demand seems small and prices are declining.

Asparagus.....@30
Cucumbers per box.....@30
Corn per sack.....@75
Chili peppers green box.....@65
Bell peppers per box.....@60
Egg plant.....@1.00
Green peas per lb.....@1 1/2
Squash per box.....@35
Peppers Green Bell per box.....@1.50
Rhubarb per box.....@40
Tomatoes California.....@50
String beans.....@1 1/2
Wax beans.....@.60
Garlic.....@2.00

Onions.

Onions new reds.....@2.25@2.50
Onions Br. Australia per ctl.....@3.25@3.75
Onions new yellow.....@2.50@2.80

Citrus Fruits.

Valencias.....@2.00@4.00
Seedlings.....@1.25@1.50
Grapefruit, seedless.....@1.75@2.00
Limes.....@4.50@5.00

Fresh Fruits.

The fresh fruit market is in fair good condition although sales are rather slow and most of them below average in quantity. The price of watermelons and the other varieties remain firm at the figures given last week. The receipts of peaches are confined mainly to the medium grades stock and therefore, the price has not quite as wide a range as former. Pears are on the decline in price as receipts are larger than the demand.

Apples Red Astrachans.....@50
Apples small stock.....@35
Crab Apples.....@75
Blackberries per chest.....@3.00
Figs 1 layer.....@50
Figs two layers.....@1.25
Grapes per crate.....@1.50
Logans per chest.....@8.00
Melons per crate.....@1.00
Plums per box.....@50
Peaches per box.....@50
Bartlett's.....@1.75
Raspberries per chest.....@7.00
Strawberries per chest.....@7.00
Watermelons per doz.....@1.00

Dried Fruits.

Apples (evap.).....@6 1/2
Apricots per lb new.....@2 1/2
Figs white.....@3 1/2
Prunes 4 sizes.....@40
Peaches.....@100
Pears.....@5 1/2

Beans, Dried

Limas No. 1.....@5.25@6
Pink.....@2.60@2
Large white.....@2.50@2
Small white.....@2.90@3
Black Eyes.....@4.85@5

Kidneys....	3.25@3.50
.....	3.20@3.30
Hops.	
new, future delivery, per lb 9@11	
old, fancy	9½@10
choice	7@9
common	5@6

Nuts.	
nds, new	17½@18
ats, California	5½@6½
uts	12@16

Honey	
white comb....	16@17
.....	13@16
ected.....	5½@7½
wax No. 1 per lb.....	26@28

Hay.	
fa local	11.00@13.50
old	15@16
at No. 1 new.....	16.00@18.00

Grain.	
re is not much interest manifest- the local dealers in the grain et. There is some steady buying offers to buy at the quoted figures. able grades of wheat were firmly and the best quality of barley is stronger and higher.	
No. 1	1.52½@1.55
y No. 1	1.27@1.30
small yellow....	1.60@1.65
large yellow....	1.50@1.55
white	1.45@1.50
red.....	1.50@1.75

Feed Stuff.	
per ton	19.00@22 00
w per bale..	60@90
corn meal per ton.,	32@33
aked corn per ton.,	33@34.50
ake Meal per ton..	40.00@41.00
anut cake, per ton	25.00@26.00
lings	27.00@30.00

Citrus Market

S ANGELES, Aug. 7, 1907.—“The July for Valencias I have ever seen,” remarked R. H. Wilkinson, agent of the California Fruit Exchange to the writer today. Mr. Wilkinson also remarked on the excellent condition which has prevailed in the market all the season, also on the promise for satisfactory conditions for the coming season. “Especially,” said Mr. Wilkinson, “for the finer grades of well packed fruit.” “It is astonishing how the trade will pay prices for a handsome pack of fruit, while an indifferent pack is begging.” The trade each year demands a little higher standard which the grower and dealer must recognize, if best returns are desired. The extra cost of more careful handling is slight. Boxes, light and selling expense are no more than additional return practically goes to the grower. Let next year’s be the finest ever out of the State. There are approximately 500 cars of Valencias yet to be shipped and about six months in which to ship it. All cars are gone, though by the follow-up sales report even navels are in the hands of the Eastern auctions. Those doubtless storage fruit kept on ice will arrive in Eastern markets. The sample sales below show that Valencias are commanding top notch prices. Lemons are hardly as good as last year. More foreigners are being received this year may account for it, but the grower is not discouraged for returns are the rule.

Shipments.
Shipments of citrus fruits to date are 9 cars of which 3043 were lemons. Same date last season, 24,603 of which 3241 were lemons.

NEW YORK, Aug. 5.—The Valencia market is unchanged. Weather cloudy. No cars sold.

Valencias—	
Amid o r Strachan Ft Co..	4.30
Palmos xc San Mar Pack Co	4.55
fy S B Ft Ex..	4.05
al xc S B Ft Ex.....	3.00
xy D M Ft Ex.....	5.25
smoyne fy E M Ross....	4.70
pendent fy Highland Dist....	4.55
Mission fy Chapman’s Fulln..	6.50

terinary Instruments, Black Leg and Anthrax Cure, Milk Fever Outfits...See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Golden Eagle st Chapman Fulln..	4.60
SWEETS—	
Golden Rule....	2.90
SAN MICHAELS—	
Golden Rule	3.65

PHILADELPHIA, Aug. 5.—The market is steady and the weather is warm. Four Valencias and one mixed car sold.

Valencias—	
Tally Ho ch S B Ex Rialto.....	4.10
Our Popular xch F H Speich & Co	3.40
Purity fy Tustin Pack Co.....	5.05
Old Oak st Tustin Pack Co.....	5.10
Lucky ch Tustin Pack Co.....	3.80
GRAPEFRUIT—	
Puritan xfy S B Ex Rialto.....	3.95
SWEETS—	
Tally Ho ch S B Ex Rialto.....	3.45
Yacht st S B Ex Rialto.....	3.00

BOSTON, Aug. 5.—The market is easier and the weather favorable. Five cars sold and three on tracks.

Valencias—	
Cosmos fy S B Ex Yerkes.....	3.90
C S O st S B Ex Yerkes....	3.70
Peacock xc Worthley-Strong....	3.65
Rossmoyne fy E M Ross..	4.80
Golden Sceptre Rialto O Co.....	4.25

PITTSBURG, Aug. 5.—The market is weak and the weather cool. Four cars sold.

Valencias—	
G. Orchard xfy Ind Ft Co....	4.85
G. Orchard xfy Ind Ft Co.....	4.80
Pointer xc A C G Ft Ex.....	3.85
Hunter st A C G Ft Ex.....	3.55

Navels—	
Red Globe xc Riv Ex Riverside..	2.50
Red Globe Riv Ex Riverside.....	4.45
SWEETS—	
Red Globe xc Riv Ex Riverside..	3.25
Cal. Orange st Riv Ex Riverside..	3.25

CLEVELAND, Aug. 5.—The market is steady. Cold and raining. Two cars sold; five on tracks.

Valencias—	
Ben Hur xc R H Ft Ex Redlands..	4.15
Newsboy st R H Ft Ex Redlands	3.65
LEMONS—	
Blue Jay st O K Ft Ex....	3.30
Swan xfy R H Ex Redlands.....	3.50
Newsboy st R H Ft Ex Redlands	3.50

ST. LOUIS, Aug. 5.—The market is firm and weather warm. Two sold; six on tracks.

Lemons—	
Rose Villa xfy Q C Ex Corona...	3.35
Minerva st Q C Ex Corona.....	2.50

Valencias—	
Don Quixote st S T Ex Alhambra	3.85
CINCINNATI, Aug. 5.—The market is weak. Rainy and cool.	

Valencias—	
Flamingo xc Cal C U.....	4.50
LEMONS—	
Old Glory xfy Flagler Ft Co.....	3.00
Greyhound ch S A Ex San Dimas	2.50
Duck st S A Ex San Dimas.....	2.30
Messinas....	3.15
Messinas.....	2.00

BEE STING CURE FOR RHEUMATISM.

Bee-sting is said to be good for rheumatism, but that is not the bee’s intention in administering it. The bee has other problems than those connected with the curative art. His intention is to lift his man out of position and he does it—unless the latter is intoxicated. If the man has rheumatism, no matter. The bee moves him at once by eliminating acid from the blood and arousing the gamiest leg from the lethargy of ages. It is well before annoying the bees to get your rheumatism established, because one bee-sting will lap over a good deal of rheumatism and if you have an insufficient supply of the latter to neutralize it, the bee, in his earnestness, is prone to overdo his part.—Minneapolis Journal.

A handful of salt or a piece of zinc, thrown into the stove occasionally where there is a good fire, helps to keep flies clear.

THE HARVEST THAT NEVER ENDS.

Dairy farming, which has been happily designated, “the harvest that lasts all the year,” enters into the field of manufacturing more than any other farming pursuit, since the dairy farmer furnishes both the raw material and finished product. It enters both into live stock raising and general farming and for the greatest success demands that those who follow it shall have a thorough as well as practical knowledge of the breeding and raising of animals, no less than the planting, cultivating, and harvesting of farm crops.

Whole nations, as Denmark and Holland, and whole States, as New York and Wisconsin, have been made prosperous by attention to dairy farming and the production of butter, cheese and milk of high quality. Many farmers have become wealthy in land and money by the pursuit of dairying. Whole communities have been built up and enriched by the gentle dairy cow and the man behind her. Dairy farming, also, has this important advantage in that it restores fertility to the land, while other systems of cropping take fertility from it as each load of grain or grass is hauled away to be sold.

Looking at the less attractive side of dairy farming, it is often urged that those who follow it are compelled to be in their place every day in the year without a vacation or holiday. This is true in many cases, for the cows must be milked each day, and the milk disposed of. Very often this requires the personal attention of the farmer, especially where the help is not the most reliable. But is it not true that the successful man in most all other vocations must attend to his calling with regularity? And oftentimes the other man’s daily task is less independent, less remunerative, and more exacting.

There are, of course, hardships connected with dairy farming and the handling of cows, and often the shipping of the milk or cream, and the profitable marketing of the same are attended with difficulty, but were this not the case it would be different from most other pursuits of life, and would attract many from them.

With the strict regulations which are being put in force by State, county and city health authorities, calling for more attention to cleanliness of milk production and the health of the dairy herd, dairy farming and pure milk becomes of greater importance, and for a higher grade product the milk producer is justified in expecting a higher price.—[Inland Farmer.

NOTES OF THE HOG LOT.

Build the fence around the hog lot so the pigs cannot wriggle through. Once they learn the trick nothing short of a bull-proof fence can stop them.

If we are going in for hog raising let us plan our campaign in advance and then stick to our work. A haphazard, go-as-you-please method is sure to end in failure.

A pig rises up today only to be cut down tomorrow. He is with us but a short time but during that period he is either making or losing money fast. It all depends upon his owner.

A chicken-eating sow is abomination and is not worth her keep un-

Veterinary Instruments, Black Leg and Anthrax Cure, Milk Fever Outfits...See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

less she can be confined in a hen-tight enclosure.

Give the hogs shade and plenty of air with it. A tight, dark pen is a poor place for hogs in hot weather.

While a hog will drink dirty water, clean water will make better pork.

If a pig is allowed to wallow in a barnyard pool he will never get over the habit but will always return to it.

Hogs must live on the ground to thrive—particularly in summer time.

No matter at what season the sows are due to farrow, care should be taken to provide for them with dry, clean quarters to themselves.

As a rule, after a sow farrows, she should not be disturbed in any way until she gets up of her own accord, when she may be given a bucket of good slop.

An abundance of milk for the first eight or ten weeks of the young pig’s existence is the best preparation they can have to fit them for profitable growth afterward.

There is no better feed for young pigs after they have learned to eat than good oats. It can be ground and made into a slop with sweet skim milk, all the better.

The cheapest growth with growing pigs is secured by giving them the run of a good alfalfa pasture and feeding them on a slop of middling and skim milk, or bran, oil meal and skim milk.

INCREASING BUSINESS.

The Tallerday Manufacturing Co. has been pushed by increasing business until improvements, and enlargements have been made at its factory at Dolgeville, making possible greater and greater output.

Now the office force has had to be enlarged, which has bene done by adding new blood entirely. The management send out the following:

“We beg to announce that Mr. C. B. Johnson has acquired the interest of Mr. F. G. Tallerday in this business. The officers of this company are: C. B. Johnson, President; H. G. Tallerady, Vice-President; W. P. Finnerty, Secretary and S. W. Hudson, Treasurer. Offices at 636-637 Pacific Electric Bldg., Los Angeles. Factory, Dolgeville, California.”

The goods, pipe, tanks, etc., sent out by tis large concern have won favor and friends. May it continue to send out labor-saving and water-saving appliances.

GET THE ORIGINAL.

The cheap reprint—“Original Reprint”—of Webster’s dictionaries often offered as premiums or for sale at bargain counter bookstores, has proved a great disappointment to many. It looks a little like a Webster, and is, indeed, a reprint of the old and out of date issue of 1847, the copyright of which, long since expired.

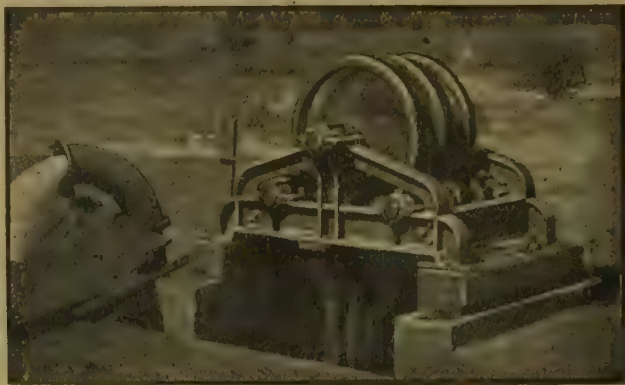
Readers of the Cultivator who wish the more recent publications which give information in keeping with the times should watch well to get the genuine G & C Merriam publication—get Webster’s International dictionary. The publishers say of it that it was produced at an expense of a third of a million of dollars. Also that, “now at the beginning of the twentieth century we have issued a new and enlarged edition of Webster’s International dictionary, containing 25,000 new words, with new plates throughout, and edited by W. T. Harris, Ph. D., LL. D., United States Commissioner of Education.”

A prospectus will be sent to Cultivator readers on application to G & C Merriam, Springfield, Massachusetts.

He who is always hearing and answering the call of life to be thoughtful and brave and self-sacrificing—he alone can safely hear the other cry of life, tempting him to be happy and enjoy.

—Phillips’ Brooks.

Addison Double Plunger Pump Head



It will pay you to investigate the Addison before purchasing a pump. Send for Catalogue B.

Addison Pump Company

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Cor. 1st and Cypress Sts., Pomona, Cal.

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For 200 Pounds Pressure

1 3/4 H. P. Engine

240 Gallon Tank

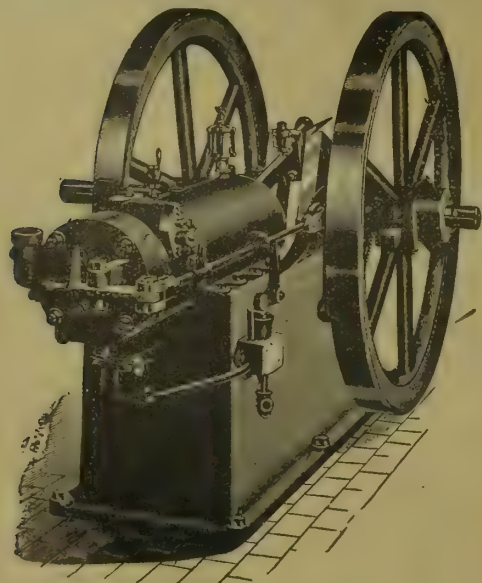
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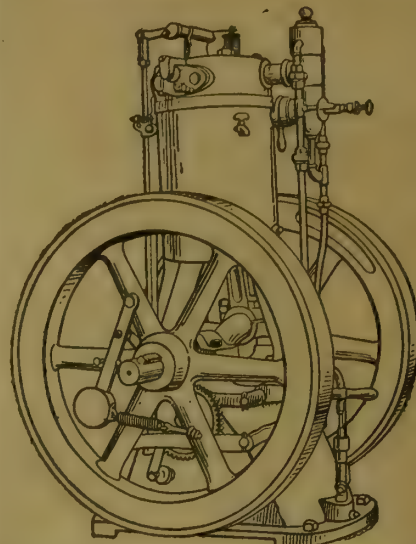
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Fully Guaranteed in every particular

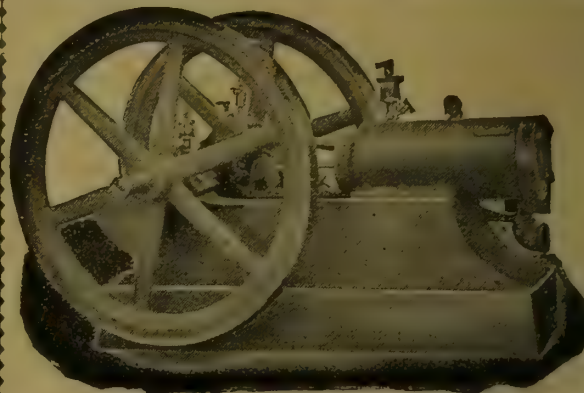
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Send for our new catalogue and estimates.

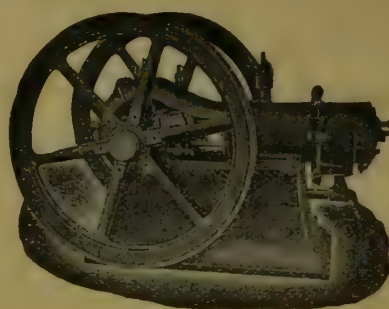
Samson Iron Works



Office and Factory, 1100 to 1198 Aurora St., Stockton, Cal.

Branch: 920 J St., Fresno

553 S. Los Angeles St. Los Angeles



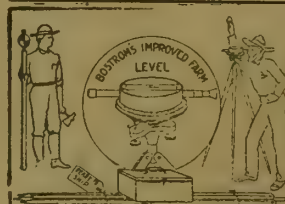
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Branches — Sacramento, Visalia, Porterville



BOSTROM'S IMPROVED FARM LEVEL

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Made from California Redwood **WOOD PIPE** Or Selected Puget Sound Yellow Pine

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California Cultivator

Los Angeles

August 15, 1907

San Francisco

One of Fresno County's Productions



Fresno county is synonymous with "Raisin" and "Grape." It is a county of all kinds of fruits, but "Raisindom" more nearly expresses it. Neither is it any small patch on the map, for it has an area of 6152 square miles, a liberal portion of which will grow grapes, as indicated in above engraving.

Those grapes were grown in Kerman, one of the newer subdivisions, about which a writer recently said, after he had passed by it:

"A few farmers have told about it in language that appeals to farmers. This is the language of thriving vineyards and peach orchards. They tell their own story."

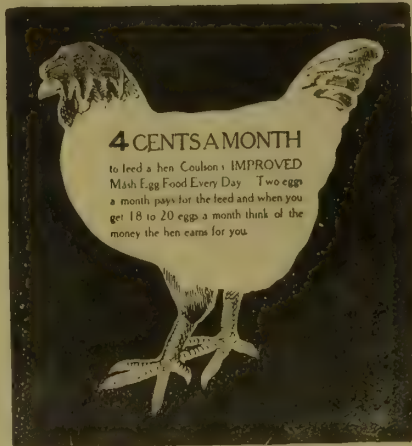
And as to its town he said:

"Kerman is a model city with everything but people. It reminds one of a perspective map of a town. It is the Burnham plan on a small scale. It is not a Topsy town. When it becomes a city, which ought to be in the near future, it will not have "just grown." It is carefully laid out in advance. It is an instance of special creation, as opposed to natural evolution. Boulevards, parks, drives, sidewalks, those things that people begin to think of after a city has grown up without them and has become close and stuffy, are all provided for in advance."

Coulson's Improved Mash Egg Food

**Takes
Less
Feed**

**Makes
More
Eggs**



IF YOU WANT PLENTY OF EGGS THIS FALL AND WINTER when prices are high, you must lay your plans now. The hens must be given a strong feed which will enable them to get through the molt without loss of condition, and they will then quickly commence laying again.

First, see that your hens are healthy when they start to molt. At this time of the year, after a heavy laying season, they are apt not to be at their best, and a little of *Coulson's No. 3 Condition Powder* will put new life into them, and enable them to thoroughly digest and use the good food which they specially need.

At the same time, they must have the best food you can give them from the commencement of the molt. You will find *Coulson's Improved Mash Egg Food* is just what is required. It is strong in protein, due to the blood, meat, bone and oil cake meals which it contains.

Put Up in 90-lb. Sacks Directions in Each Sack

Your hens will not need to eat so much of the concentrated food to obtain the egg-making and feather-producing materials they need, thus saving their digestive organs and your pocket at the same time.

Coulson's Improved Mash Egg Food is therefore beneficial in two ways. Less feed is required and the hen gets just what she needs, with the result of a quicker molt and more eggs.

First cost is not everything, but even in this respect, COULSON'S IMPROVED MASH EGG FOOD shows to advantage. A 90-lb. sack will make a meal for 1250 hens. This is just over 2 lbs. a hen a month. Think how many eggs does it take to pay for this feed? In November, only 1 egg, and not more than 2 on the average.

We know what this feed will do by results on our own poultry ranch, as well as from testimonials from pleased customers all over California. What it does for others, it will do for you.

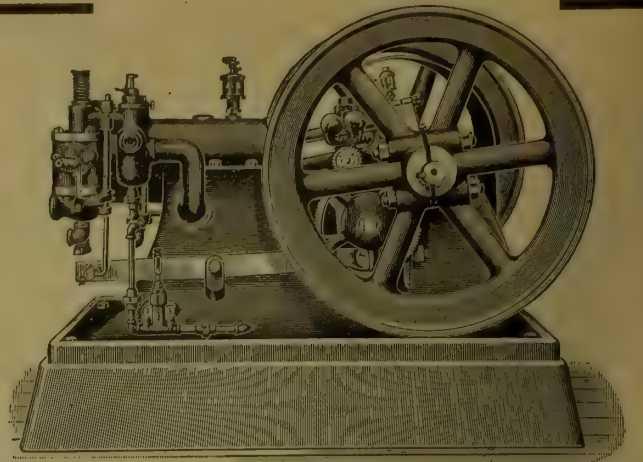
Give a trial order to your dealer; if he does not keep it, write to us, and we will either advise you where you can get it locally, or supply you direct.

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Start so easily you think them automatic.
See them running in our salesroom.

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SEE the FUEL-SAVING, WEAR-AND-TEAR-SAVING GOVERNOR

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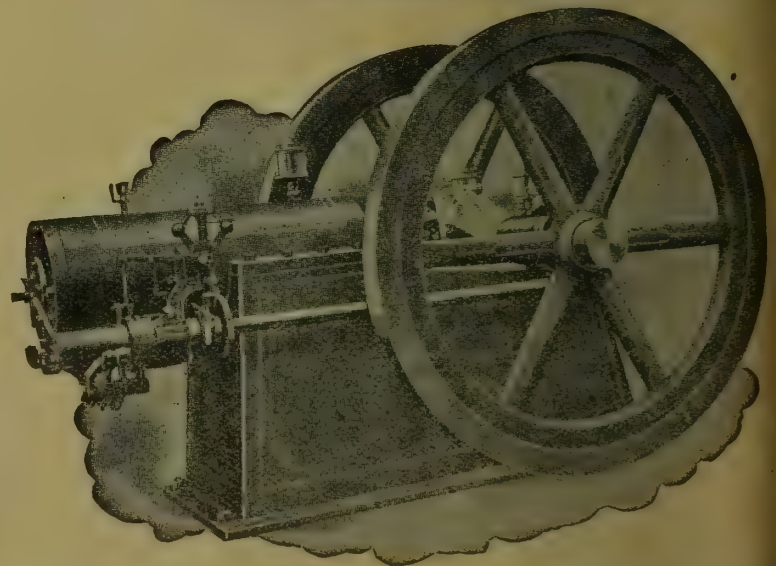
Columbus Engines

MADE BY THE.

Columbus Machine Co., Columbus, Ohio

Have stood the test fourteen years.

—2 to 60 Horse Power—



Here's a Good Word from a Man Who Knows:

Los Angeles, Cal., July 8, 1907.

To Whom it May Concern:

We have recently installed and now have in operation on our ranch near Anaheim a 60-horse-power Columbus Distillate Engine. This engine is belted up to a No. 6-2 stage pump, in a 90-foot pit, and is running along on an apparently easy load and pumping by actual measurement over 150 inches of water. Our fuel consumption has averaged so far four gallons per hour.

To the man who wants plenty of water, little trouble and economical engine, and one that develops the full horse power, we can cheerfully recommend the Columbus Engine.

We have had experience with high speed so-called big horse power engines, and know whereof we speak when we recommend the Columbus Engine to the public, knowing that it is a kind you can depend upon, free from all trappy devices, simple to operate and economical.

The writer has run a 10-horse Columbus Engine at Tropico, for the past four years, and can vouch personally for the above statement.

Trusting that this information will be a benefit to those interested, we beg to remain,

Yours very truly,
THE ANAHEIM PRODUCE CO.,
By E. B. Barry, Manager.

Greenleaf-Compton Co.

121 South Los Angeles St.

Los Angeles Cal.

California Cultivator

Vol. XXIX—No 7

Los Angeles, California, Thursday, August 15, 1907

Subscription \$1 a Year

A Florida Green House System

How the Production of Fancy Fruits and Vegetables is Carried On in Florida Without the Expensive Glass House System

FLORIDA has learned by experience a lesson of value as to frost protection. California has likewise had some occasion to think of that line, though she has never had as severe a lesson as has Florida. But frost protection is a live question here. At one time one entire acre, 20 acres, we believe, at Riverside, was covered at great expense with a lath house. This experiment was never followed and has proved to be, as the house or covering of lath has now been taken away, so we assume it is considered a failure, as a means of protection for orange groves at least. But along the line

growing vegetables or other valuable crops the growing, which we take from the Florida Agriculturist, which paper extends the courtesy of the accompanying cuts, have hints of value for California growers.

Here is the Florida

Our readers are more familiar with the glass greenhouse systems in and around the big cities, by means of which fine vegetables are raised and sold during the winter at extremely high prices. Comparatively few, however, have knowledge of a system that has been origi-

ated and put into use here in Florida, during the past few years, in which cotton cloth is substituted for glass, and the place of the elaborate and expensive heating devices used in the north-glass greenhouses is taken by simpler and less expensive, though quite as efficient method of heating, considering that nine-tenths of the time we have the natural warmth and sunshine of Florida to induce growth.

Our representative has lately visited several of these cloth greenhouses and we herewith reproduce photographs showing the new form of construction and various crops raised by means of it.

Advantage over Glass.

The principal advantages of cloth curtains of top and sides over all the glass greenhouses are, first, the absolutely natural conditions that surround the plants during their entire period of growth, uninterrupted sunshine, air, rain and dew. The cloth curtains of top and sides are all rolled back and never cover or shade the plants during the hours needed for protection against frosts or freezes; second, the immunity from fungus diseases and other pests that exist under the glass greenhouse system; and last, not least, the great saving in cost of construction and maintenance. A well equipped glass greenhouse costs from ten thousand to fifteen thousand dollars per acre, whereas the cloth greenhouse costs in the neighborhood of one thousand dollars per acre. From two to four crops per year are grown under this system on the same ground.

Mr. C. M. Berry, of Orlando, has the management of several of these properties, and the information, figures and photographs furnished by

him, in conjunction with the result of the investigation of our representative are here given. Mr. Berry has at the present time eggplants, peppers, tomatoes, cucumbers, beans and strawberries in bearing. Everything carried safely through the late "freeze" when the temperature was as low as 24 degrees at Orlando. Besides these there is a fine budded grapefruit grove now four years old (and beginning to bear fruit) that has been produced under this system, fine vegetables and berries having been grown between the rows of trees for the past four years. At least one more crop of vegetables will be pro-



A portion of a 17-foot cloth greenhouse at Orlando, Florida, showing young grapefruit grove with vegetables growing between the rows of trees. (The plants on the outside were frozen during the December, 1906, freeze, while everything inside was carried safely through.)

duced on this ground and then the cloth greenhouse will be devoted entirely to the grapefruit trees, insuring them from being frozen, protecting each year's bloom from damage, and enabling the grower to hold the fruit on the trees without danger from freeze throughout the winter until such a time as the extremely high prices that prevail after the general crop of out-of-door grown grapefruit is gone, justifies the marketing of the protected fruit.

Heating.

The usual height of the cloth greenhouse for the growing of vegetables alone is seven feet—admitting of horse-cultivation—but one for grapefruit or other trees, as in the above instance, is from seventeen to twenty feet in height. In case of cold weather it takes two men one hour to close this cloth greenhouse of one acre, as the construction is conveniently arranged and planned so that large acreages may be practically handled. Brick furnaces with sheet-iron tops and long stove pipes conducting all of the smoke and gases outside, are distributed at the rate of twelve to the acre. The fuel used is wood, and no more than eight of these furnaces have been lighted at one time in order to raise the temperature sufficiently to overcome any freeze that has visited Florida within the past ten years, though more can be readily added if found needed. The cloth is chemically treated, and some of it now in use has been used for the past nine years, though not on the present form of framework, as that has been adopted during the past four years.

Have Been Successful.

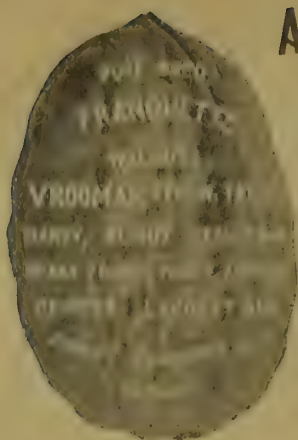
The success of the growers using this system of cloth greenhouses proves its value and assures its future adoption by growers of fine fruits and vegetables, as one good crop saved from freeze will pay for the greenhouse.

"The refrigerating of cars of fruits and vegetables shipped to our northern markets now insures their arrival in first-class condition and, considering the great difference in cost of production, the products from our cloth greenhouses are destined to compete successfully with the glass greenhouse products of the North."

The first man to introduce canning into the United States was an Englishman named Thomas Kensett, who learned the business in the old country from Peter Durant, who in 1810 obtained a patent for putting up food in hermetically sealed vessels of glass, pottery or tin. In 1825 Kensett established a factory in Maryland. It did not make much progress until the Civil war, when there was a great demand for vegetables and fruits in the army.



A 7-foot cloth greenhouse for vegetables at Sanford, Florida, showing general construction and preparation of the ground for cucumbers



Ask Us about Wal- nuts

The kind
for com-
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planting

**Large,
Rich and
Prolific**

Costs nothing to investigate

Ask for our Walnut Booklet

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Salesmen Wanted

Grow ALFALFA AND CLOVER

A valuable crop if seed is saved. Write us and learn what successful growers have to say about raising Clover and Alfalfa SEED. We are the only manufacturers of special seed saving machinery for this purpose. Address

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To Drink Any Time,
Wherever You May Be

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SOUTH AFRICAN
WATER
BAG**

(PATENT APPLIED FOR)

Keeps it Cool

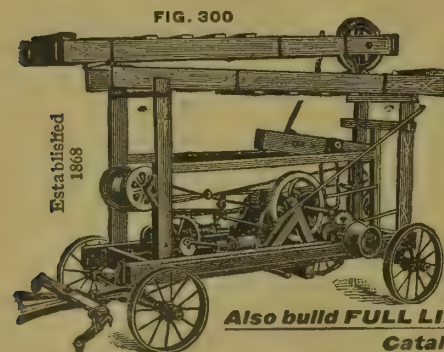
This Bag is guaranteed
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off ground.

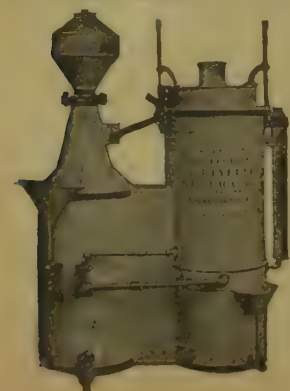
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7-inch Step-Over.

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PRESS ON
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ALL IRON
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Constructed especially for heavy California hay baling. Write for proposition to ship you a New Century on 10 Days Free Trial. Sold on easy payments. Shipped direct from warehouse in Los Angeles. For full particulars address **Capito Carriage Co., 12th and Main, Los Angeles, Cal**
Two Second-Hand Presses For Sale at a Bargain



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Have your own Gas Plant and be In-
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etc., write

CRAYTON MANUFACTURING CO.

Room 1, Butler Building

Long Beach, Cal.

Deciduous Fruit Culture

CARE IN DRYING PRUNES.

A GROWER and dryer of prunes at San Jose, J. Luther Bowers, thus writes the Mercury:

No time during our now extensive prune industry should such care be taken in drying or curing prunes as the present season. Orchards and productions of dryers have been bought on the four, four and one-half, five and five and one-eight-cent basis, and at this high price of prunes, a tendency will be created to put in everything that contains a pit, regardless of quality. If every grower who dries his prunes and every person who buys the growers prunes to dry would aim to make his dried prunes of the very best quality, the California prune producer has it in his power always hereafter to maintain our prune price at a three-cent basis or over, regardless of crop conditions.

The first picking should be all picked up clean and dried and kept by themselves. Most of the very first prunes to ripen will be either sunburned on one side or have a split pit. Such fruit should never be put in with the bulk of the dried product, as a few prunes of a poor quality will often ruin the sale of the entire lot, should the purchaser get hold of a faulty prune as a sample. By all means keep this first picking by themselves and sell them for whatever they are worth.

Gathering the Fruit.

Prunes to make the finest quality of dried fruit must be fully ripe and allowed to fall from the trees. Even a ripe prune taken from the tree before it has loosened from the stem does not contain the sugar like a prune that has ripened and fallen off of its own accord, and for this reason at least the greater portion of the prunes should be left to fall without shaking the trees.

The crop being light this year,

many growers will try to save expense in dipping and will pick two or three days before dipping. This should be avoided if possible. During my long experience in handling prunes I find that it does not pay to even keep prunes in boxes over night for the reason that they go through a sweat, and whenever they do go through a sweat they can never make a first quality of dried fruit and for every night a prune remains in a box it will take two days longer for the prunes to dry for the first night and the time will double for each succeeding day. For instance, should a lot of prunes be left in the boxes for four days and a similar lot be picked fresh from the ground and both be dipped at the same time, the day the last lot were picked up, those in the boxes four days would be from 20 to 30 days longer in drying and nothing less than an evaporator will dry them sooner.

I would rather let the prunes lie on the ground under the tree for a week or ten days than to let the picked prunes lay in the boxes over one night.

Grading Beforehand.

Many growers still cling to the idea that prunes must be graded before they go on the trays. I have never seen where anything was gained by this work. By not grading the green prunes a lot of hard work is saved, and when prunes have laid on the ground for four or five days a lot of them are soft; these will often hang in the meshes of the screens and break and muss up a lot of other prunes and when dry will stick to the trays, making many slabs of faulty prunes, while if they are not green when graded, the large prunes will dry just as soon as the small ones; none will stick to the trays and when the dry fruit is thrown on the pile all now go through a sweat and all are of the same moisture. Certainly I for one would never think of green grading for perfect fruit.

At Boiling Point.

The dipping vat should be in such shape that the dipping fluid can be kept at the boiling point and no prunes should ever be put into this fluid unless it is boiling. It is not a matter of how strong the lye is, but, how hot is the water. In drying prunes just two things will happen; they will either dry or ferment. The fermenting germs are in the inner skin and unless the water is hot enough to kill these fermenting germs, the prune will not immediately commence to dry, but will, in a few days, become a chocolate color and refuse to dry, sometimes a few on a tray, often half and sometimes nearly all. The cause of these conditions is, that the prunes have not been in water that was boiling, if dipped the same day that they were picked.

If the water is at the boiling point all through the dip, two pounds of lye to the 100 gallons of water will be sufficient; if the water is not boiling ten pounds of lye to the 100 gallons of water will be enough.

Only weather conditions govern the time prunes should remain on the tray. Grasp a handful of prunes and give them a gentle squeeze and open the hand quickly, if the prunes separate they are ready to stack and should be placed in the bin before they rattle on the tray.

SULPHURING FRUIT.

Recently there has been considerable disturbance in the fruit world because of the action taken at Washington in relation to the pure food law and the report that the construction of the act has been interpreted in such a way that California sulphured fruit will come under the ban, unless the sulphur is used in quantities as prescribed by the following as stated from Washington on Saturday last:

"Sulphur fumes may be used pending further investigation, but in reduced quantities, 350 milligrams per litre in wines and 350 milligrams per kilogram in other food products, which not over 70 milligrams is in free state."

"Upon the statement of California that this amount is not sufficient, the department has agreed to investigate further and to send men to California to demonstrate that the allowance is sufficient."

Sulphur is used in California fruit processing to protect the dried fruit from moths and worms. As every California producer eats the fruit in which sulphur is applied, he certainly exemplifies the proposition that "the proof of the pudding is in the eating thereof." Sulphured fruits do not injure California people, hence why is this excitement in the East? Who is stirring this thing up? Is it some interests who are other than producers of fruits that are raising this question to stall the operations of the pure food and drug laws?

We confess that we do not know but any information as to who of what influence is at work would help to solve this matter. The order that when sulphur is used, that fact must appear on the label is all right. It ought to be done. All food products of any country should be branded just as they are. This matter was fought out when the oleomargarine act was passed and it was settled that as to the imitations of butter the butter and the imitations should be branded to show what each product represents. It was all right. Sulphured fruits are all right when people know how to use the goods, that is, to soak the product in water in which a little soda has been added, the whole effect of the preservative—the sulphur is vitiated and a perfectly clean and wholesome food is ready for consumption. The recent order has made a whole lot of trouble, and the government ought to see to it that prompt work is done and thus save growers and the packers and buyers a whole lot of trouble. For inquiry here in Hanford, today among some buyers of dried fruit satisfies the Sentinel that with the order standing as it does, many producers will be up against a hard proposition, and so, too, will the buyers as some of them declare they cannot make advances on contract, and in some cases the buyers have advised to let the early peaches rot on the amount to we cannot say.—Hanford Sentinel.

BARTLETT BLOSSOM WILL FERTILIZE ITSELF.

We are in receipt of the following from John Vallance, Supt. of the nursery department of the Cox Bee Co. of San Francisco.

I notice in your issue of July 11 page 52, a statement (copied, however, from Field and Farm) that the Bartlett pear will not fertilize itself. This is erroneous, as I know an orchard at Livermore, planted to Bartlett's only, that has annual crops, and there is not another pear tree nearer than two miles to said orchard.

IRRIGATION.

Wherever practicable all deciduous fruit should be irrigated as soon after fruit is picked as possible. While fruit is ripening water need not be applied unless the ground gets dry and the tree shows signs of needing water, which can always be known by the appearance of the leaves. However, all trees that mature their fruit in July or early in August in an ordinary rainy season will get along with one irrigation previous to picking their fruit. Thorough cultivation should always follow irrigation and in most cases two good irrigations will put the deciduous trees through the growing season, but it is to remember that the fall growth that makes the fruit buds for the following year and any extra attention this time is amply repaid during the following year.

Although much fruit of good quality is grown without irrigation, the consensus of opinion is that irrigation is well, both in increased size of fruit and in quantity of fruit. All down the coast, in reach of the moisture from the ocean, is a belt of land that is remarkably well without irrigation, and even when the rainfall is scanty, thorough cultivation will produce good crops of fruit. But a closer observation shows that irrigation produces much larger trees in the same time and much denser foliage at all times, which is a very great benefit, in case of a few exceptionally hot days with drying winds, and places where sunscald is indicated. It applies also to walnuts and might have prevented some of the sunscald.

PEACH DRYING.

Peach drying heads the list during August and, in case of some late varieties, it will run over into September, but it must always be remembered that for drying fruit one week in the middle of August is worth three after the middle of September. Clingstones are at their best during this month, and as a rule are preferred for canning. By the use of improved knives they can be cut for drying or canning very rapidly. For home use clingstones are preferable, but by ordinary methods of cooking for filling bottles and cans, they keep their shape much better and do not become soft or mushy during cooking. A pit left in the fruit is an improvement in flavor. This applies to stone fruits, apricots and plums especially. In putting up clings for home use, try a few bottles with the pit on. They retain much more of the flavor in this way. If they are washed and wiped with a dry cloth the fuzz will be removed. Yellow varieties of peaches are preferred as being more pleasing to the eye, suggesting some flavor.

PRUNING APRICOTS.

Where it has not been done sooner, it would be well to prune apricots, especially young trees, and it should be done as soon after a good irrigation as possible, in order that the full force of the new growth and flow of sap may be forced into forming fruit buds for the coming year. Where large growths have been made of from two to three feet, it is well to cut them back, say one-half at least, and this summer pruning will, if well done, remove the necessity of winter pruning. It must be noted by those who have not had experience in our California methods, that as a rule summer pruning is injurious and should never be done except to pinch the tips of branches that are like-

ly to make such a growth as to bend them down. Pinching the tips of the branches compels a stock growth, but regular pruning with the vigorous growth of the apricot acts as a former of fruit buds. Where pruning of the apricot has not been attended to, the orchardist will sometimes find the weight of fruit on his trees breaks them down completely, when if they are not broken below the bud the only way to do is to let them start and grow and form a new head, provided it does not kill the tree altogether.

APPLES AND PEARS.

Apples and pears must be gathered before becoming dead ripe, as they will be much finer flavored in this way. Ripeness can be told by the seeds turning black. Pears for canning or drying must be kept until they get mellow, when the fruit is in its perfection.

If they have to be shipped they must be shipped while yet firm and solid, and if intended for market they must not be too soft, or they will get bruised before being sold.

ROOT REGULATIONS.

An Eastern exchange has a suggestion which may be of value, but we think but few gardeners will have the patience to give it much of a trial. Here it is:

Regulating the root growth by root pruning, transplanting and other methods is no new idea. The several transplantings, often practiced, are, however, sometimes difficult, as when a tap-root runs deep into the earth. A Texas man has, it appears, invented a mechanical device to regulate root growth. His idea is to insert a metallic openwork strip or screen in the earth and plant over it. The main root of the plant striving to pass through the screen in its downward journey is partially headed off and forced to throw outside roots.

Many of the trees and shrubs throw out suckers during the early summer. They are now making a heavy growth and taking a great deal of the sap needed to develop fruit. By cutting them off now much of the sap needed elsewhere by the trees will be saved.

NATIONAL NUT GROWERS.

This is a great country with great diversity of soil and climate, but each section has one or more species of nut trees adapted to the local conditions.

Since the organization of the National Nut Growers' Association in 1901, a rapid development in the nut industry has taken place in Southern territory, where the pecan finds its most congenial surroundings.

The sixth annual convention of the National Nut Growers' Association will be held at the Jamestown Exposition, September 26-28. This meeting follows that of the American Pomological Society, which closes on the morning of the 26.

If you have an orchard or vineyard you must learn how to recognize the San Jose scale, the codling worm, the curculio, American blight, vine hopper, mildew and black-rot. Do not console yourself with the reflection that these are not injuring your orchard. If you wait until the pests commence to show signs of injuring, it will be too late to extirpate them!

Implements for the Ranch

We can supply **everything** that is needed in Ranch Implements. If you need a wagon we have the Shuttler—the "king" of all wagons. We also have the Burg, the Harrison, and the Winona Wagons—all good.

If you want a Fertilizer Drill, we can supply you with the BUCKEYE, built especially to meet California conditions—and it does it. No better drill is made—we have never seen one as good.

We have the Great Western Endless Apron Manure Spreaders. Every ranch should have one—saves time—saves money—increases crops.

We are the largest implement and vehicle house in Southern California and we maintain our supremacy by square dealing, reasonable prices, and absolutely reliable goods.

We want to see you at our store.

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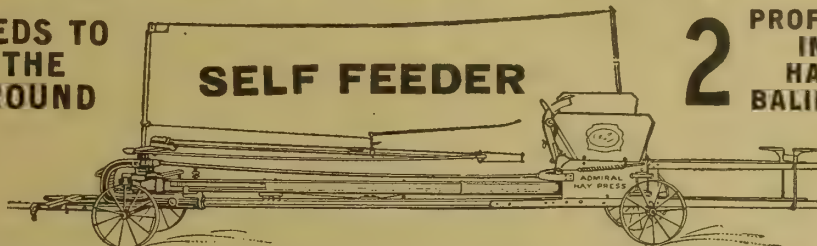
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The difference in the increased earnings of the ADMIRAL THREE-STROKE SELF-FEED PRESS more than pays for the press in one season, at a conservative estimate of 2½ tons per day over the old style two-beat, foot-feed press, besides the ease of labor on both men and team, and better work. Let us figure a little to convince you.

2½ Tons per day for one week, 15 tons at \$1.50 net.....\$ 22.50

One month's earnings over the other press (26 days)..... 97.50

On an estimate of five months' work out of the year..... 487.50

The above gain with the ADMIRAL more than pays for the press.

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Write for Circular and Full Information. **A. A. WHITNEY, Special Agent**
Room 203, 316 Commercial St., Los Angeles, Cal.

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Ringbone and other bony tumors.
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Live Stock and Dairy**THE LAST OF THE SILOS.**

WHEN I began to write about
silos over a month ago, I
thought of two papers, but it
has lengthened into five; I truly
think this will be the last at present,
yet the subject is far from being ex-
hausted. Yet I may after all find I
am like the two men that disputed
over a promise. The first man said,
"Sir, you have broken your prom-
ise!" "The other man replied, "O!
ne'er mind that, I can make you one
fully as good right away."

Concrete Silos.

Good cement is requisite to give
strength, if the mass is to be perfect.
Good cement and a knowledge to se-
lect the right sort of sand to use. In
California along the Sierras, the
rivers and washes carry down disin-
tegrated granite as sand. This has a
sharp edge and makes an admirable
concrete. The secret in making a
lasting wall of cement is never to let
it dry until completed; if it dry out
between the different days' work it
will always be less resistant in that
spot. Where it is kept wet it will
form a true monolithic wall. The
disaster in San Francisco clearly
shows that weak points in the con-
crete came on the Sunday laying off.

The great strength of cement and
stone work was clearly brought out
in that massive wall of the Empor-
ium building that stood reaching sky-
ward, straight and sheer without
side wall attachments; it had stood
earthquake, fire and dynamite. The
continuous wall for the silo is made
by using an adjustable frame that
moves upward as the walls are built.
The plan of this sectional frame can
easily be obtained. The concrete
wall can be made heavy enough to
stand the pressure, but it is cheaper
to make it lighter and reinforce it
with heavy wire or light iron rods.

Cement Blocks.

A form of hollow cement block
has been perfected for silo building;
at present it is too soon to pronounce
it good, though it seems to be all
right. The blocks are made with an
interlocking end and have a curve to
follow the outline of the silo. Bands
of iron are embedded between them
in the mortar to add strength. An-
other form of blocks have a small
depression near the outer wall, or
rather at the outer edge; into this
a round half-inch of iron is embed-
ded. This is used on every third
tier of blocks at the lower half of the
silo and on every fourth round on
the upper part. This form is not as
strong as the reinforced concrete
wall but it is much cheaper to build
as the blocks are moulded on the
ground.

The expense of a cement silo is in-
creased by lack of skillful laborers,
and by a lack of understanding of
how much sand and cement to use.
Usually a wall ten or twelve inches
thick is used when, if the reinforced
concrete was perfectly made, a wall
four inches for the first half and two
inches for the upper half would be
sufficient. The inside and outside of
the concrete silo received a coat of
sand and cement equal parts of
each made thin enough to apply with
a whitewash brush.

Buff Jersey Silo.

The modifications of the silo are

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Weber Co., 555-557 S. Los Angeles street,
Los Angeles.

many and the working plans can be
purchased of the inventors for a
small fee. The Buff Jersey was de-
signed by E. W. Cobb of Illinois, a
well-known lecturer and writer on
dairy topics. The chief merit of this
silo is its cheapness, as it cost, but
little more than a stave silo and is
more durable. It cannot fall down
even if it does shrink up when empty.
The staves are two by fours; these
are matched but not beveled, the
sides and inner surface receives a
heavy coat of gas tar before they are
set up. Every 36th or 48th stave, de-
pending on the diameter of silo, a
larger stave made of a four by six
is put into place. The four-inch face
of this larger stave is put into place
flush with the inside and it projects
on the outside four inches. The
staves are nailed together with six-
inch spikes every three or four feet
all around. The large four by six
staves are bored with holes for the
round iron rods to pass through.
These hoops have the regular take-up
lags on them to tighten up the silo
with when it is empty. The hoops
are placed three feet apart on the
lower half of the silo and four feet
apart on the upper half. The Gurler
silo described last week is a little
cheaper than the Buff Jersey.

Minneapolis Silo.

This is patented, but its principle
can be readily described; it is a silo
easily set up and can be readily
shipped in the knockdown. The dis-
tinctive feature is that the studding are
four by fours with a groove on the
side. The studs are set up two
feet apart and the spaces between
are filled by slipping a panel made of
six-inch planking with a beveled
edge into the grooves, no nails or
spikes are used. The whole struc-
ture is bound together with an iron
or steel hoop drawn around the out-
side over the studding. The advan-
tages are that the silo is easily re-
paired by merely replacing a portion
of the work. The fault it seems to

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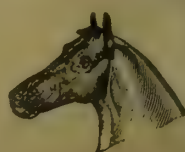
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is in the short panels shrink-
and admitting air, so that the
tops must be kept tight all the time.
The number of joints to keep tight
them to make it almost an impossi-
ble task after the silo grows old.
The matter of building for ease of re-
pair reminds me of the women that
use a machine for their sewing that
will rip easily, never considering
how much better it is to have fewer
seams and wear out their clothes
than to constantly remake them.

Christensen Brick Silo.

This is a brick silo reinforced with
a peculiar steel band. The band is
three inches wide and one-tenth of
an inch thick. The one edge of this
band is run through a crimping ma-
chine that throws it into a circle.
At the end the band turns upward
four inches leaving a two-foot space
between the two ends; iron bolts
tag enough to reach across the
four spaces complete the iron hoops.
The brick wall is constructed as fol-
lows: The outer wall has the brick
laid flat making a four-inch wall;
the inner wall the bricks are on
their edges making a two-inch wall.
Between the outer wall, every ninth row of
bricks is laid endways as a binder
between the walls; this is further
strengthened by having the crimped
steel band laid on it. The inner
wall ties to the outer wall by putting
a brick lengthways between every
other brick; in the third row be-
tween each steel band. The bricks
are set with cement mortar; the
floor is continuous and is made of
heavy planking. The Christensen
silos are adapted to very cold cli-
mates and are often built with two
zigzag flues in the walls connecting
with two fire places where fires are
kept burning when the thermometer
drops below zero.

Warning!

Do not try to build a silo too
cheaply. It lasts a long time and
could be made durable as possible.
It must be air tight at sides and bot-
tom to make good silage. It will
pay well to read up before deciding
on the best form for the dairy farm.
There are a number of good books

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written on silos as well as the cir-
culars of the different patentees. The
silage cutters also have good litera-
ture to distribute on the subject.
The Government Bulletin by C. S.
Plumb; Farmers' Bulletin No. 32 is
also good. The cost is too great for
mere guess work; if you try to guess
about it you may be as badly left as
the man that stopped his horse and
called loudly to a man walking along
the road, "Hello, Pat, which is the
road to Burlington?" "Sure and how
did you know me name was Pat?"
"O, I guessed it." "Thin, be jabber,
since ye'er so good at guessing, ye'd
better guess the way to Burlington,"
said Pat as he walked away.

HOLSTEIN TRANSFERS.

COWS—Aafke 19th Aaggie Star-
light, 2nd, Fidessa Wayne of River-
side, Frankie of Riverside, Manor
Princess of Riverside, Miranda of Riv-
erside, Riverside Josie, Riverside
Korndyke Queen, Riverside Ramona,
Ruda Princess 2nd, Ruda Princess of
Riverside, Sultana Arcturas 2nd, Chas.
D. Pierce to C. N. Whitmore Co.,
Ceres. Eva of Riverside, Wakalona
De Kol 2nd, Zwart 5th, Chas. D. Pierce
to C. N. Whitmore, Ceres. Heather
Belle De Kol, Est. Ozr Mitchell to
R. F. Guerin, Visalia. Minnehaha
Netherland, Est. Ozro Mitchell to R.
F. Guerin, Visalia.

COWS.—Althea Arcturus 3rd, Bos-
ma of Riverside, Colantha of River-
side, Eva Korndyke of Riverside, Fa-
forit Tritomia of Riverside, Jetsze
Aafke of Riversire, Lily of Riverside,
Madam Roma, Miss Martin, Riverside,
Netherland Girl of Riverside, Pietertje
Jonker, Princess Caroline of Riverside,
Riverside Beauty, Riverside Kate,
Riverside Netherland, Romeanna De
Kol 2nd, Chas. D. Pierce to C. F.
Aaron, Marysville.

BULLS.—Aralia Masterpiece of Riv-
erside, Chas. D. Pierce to C. N. Whit-
more Co., Ceres. Captain Arcturus of
Riverside, Chas. D. Pierce, to Cum-
mings & Bliss, Corcoran. Count De
Kol of Riverside, Chas. D. Pierce to
Stimpson & Whitlock, Corcoran. Fi-
dessa Blanco of Riverside, Chas. D.
Pierce to Willoughby Bros., Corcoran.
Fidessa Butter Boy of Riverside,
Chas. D. Pierce to Corcoran Land

Co., Corcoran. Hengerveld Sir Jose-
phine, J. H. Williams to E. C. Dick-
ey, Dinuba. Jetze Caesar of River-
side, Chas. D. Pierce to Stimpson &
Whitlock, Corcoran. King Korndyke
of Riverside, Chas. D. Pierce to Cor-
coran Land Co., Corcoran. Nether-
land Romance, Ozro Mitchell Estate
to R. F. Guerin, Visalia. Riverside
Salambo Korndyke, Chas. D. Pierce
to Chas. F. Aaron, Marysville. Romeo
Kurt of Riverside, Chas. D. Pierce to
Chas. Rule, Jenner. Rowena Maid Mu-
tual, Stevens Bros.-Hastings Co. to
Whittier State School, Whittier.

BULLS—Del Monte Netherland, Es-
tate of Ozro Mitchell to Walter Mitch-
ell, Visalia. Prince Soko De Kol, Es-
tate of Ozro Mitchell to E. C. Jones,
Visalia. Visalia Ben Lomond, Estate
of Ozro Mitchell to Arthur G. Mitch-
ell, Visalia.

SONOMA PROSPECTS.

Writing from Sonoma county, a
subscriber says, the season has been
a prosperous one on the whole, for
the dairyman. Good prices have been
received for butter fat. Cows have
done well and hay, while not a big
crop, is yet sufficient to permit a
good many farmers selling from 20
to 40 tons. The dairy season, on the
whole, may be set down as fairly
prosperous.

COMMON AILMENTS OF PIGS.

I find constipation, scours and
thumps the most common ailments
that I have to contend with in early
pigs; have had very little thumps
for several years, but my pigs are
very apt to be constipated for a
while at first, then run into scours
(although my sows are never consti-
pated.) If pigs are too young to eat,
I feed sows tallow, cracklings or
something of that kind. If the pigs
will eat, I take the tallow with
cracklings in it and shave it down
thin on the floor for them to eat, and
it soon loosens them up. For scours
I stop feeding the raw corn and slop
and give them ground rye, dry. I
feed it on the floor, so the pigs can
eat it, too, and they come all right
in a day or two. I think thumps are
caused by constipation and indiges-

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geles St., Los Angeles.

tion. I give tallow as above, and
get them out on the ground to exer-
cise as soon as I can, if it is only
an hour at noon. If the thumping
or heaving is caused by cold and in-
flammation of the lungs, a little pine
tar put back of the tongue will some-
times give relief.—A.

MOLASSES FOR STOCK.

In the record of experiments in
fattening stock on molasses at the
Texas Experiment Station the con-
clusions which were drawn regard-
ing the feeding of molasses were in
effect as follows: In the tests re-
ported the addition of molasses to
a fattening ration for cattle always
produced an increased gain and add-
ing molasses to a ration of cotton-
seed meal and hulls diminished the
cost of gain. When molasses was
added to a balanced ration, though
the cost was not decreased, larger
gains were noted and the appearance
of the cattle was improved. No un-
desirable results were noted when
yearling steers were fed a gallon of
molasses per head per day, and
there is good reason to believe that
larger amounts might be used. Mo-
lasses returned from 3 to 30 cts. per
gallon, the lower value being ob-
tained when it was added to a well-
balanced ration and the higher value
when it was added to a ration which
in the early part of the feeding period
was not well balanced.

THINGS A DAIRYMAN SHOULD KNOW.

Every dairyman should know—
The cost of producing a gallon of
milk.
The cost of producing a pound of
butter fat.
The cost of feeding a cow one year.
The cost of labor in caring for one
cow one year.
The number of pounds of milk
each cow in the herd yields each
year.
The number of dollars each cow's
milk brings each year.
Which is the most profitable cow in
the herd, and why.
Which is the poorest cow in the
herd, and why.
How many boarders there are in
the herd.
How much feed each cow will con-
sume during the feeding period.
Which is the best and cheapest
feed.—[Hoosier in Jersey Bulletin.

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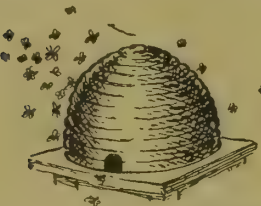
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The Ornamental Garden

THE ROSE GARDEN.

A GREAT variety of soils can be successfully used for the growing of roses but a moderately heavy loam from a well-rotted sod is perhaps, the most favorable. If the right type of soil cannot be found, light and heavy soils can be mixed to secure a soil of the desired texture. If it is desired to secure a soil for a forcing house or for potting purposes the sod should be thoroughly rotted and have incorporated with it about one-sixth to one-eighth of its weight of thoroughly rotted stable manure. Assuming that the proper loam can be found for rose growing, the sod may be cut in the fall and composted with manure, using about one part manure to three parts soil. During the composting period this pile should be turned and mixed several times previous to use, getting it into good even condition. For the production of good roses the matter of feeding the plant is of great importance. What to feed, when to feed, and how to feed are questions often asked and for their answer one has to depend largely upon the experience of expert growers and experimenters. While there is a great deal yet to be learned by careful experiment, yet a statement of general practice for the feeding of such plants is of much value. To the mixed material indicated above there should be added a short time before the planting of the rose, fine ground steamed bone to serve as a source of phosphoric acid and about 1 pound muriate of potash to a cubic yard of soil should also be used. It is well to remember that the compost for starting the new plants should not be too rich to start with or the roots of the young plants will be injured. In the production of this class of plants there is much greater damage of over-feeding with nitrogen, than underfeeding, still one must be careful and not go to the other extreme, for if one would have large, healthy well formed flowers, there must be an abundance of easily available plant food in the soil. It is more desirable in feeding roses and similar crops to rely upon barnyard manures, supplemented with bone and potash than to attempt to give all of the plant food through the medium of commercial fertilizers, still success can be had even through the latter medium alone.

If the vegetative growth needs stimulating and brightening, and the plants have strong root systems, a liberal feeding of nitrate of soda, say ten ounces to 50 gallons of water per 100 square feet of area may serve a purpose. If the growth is active and of good color, but rather spindling and short, there is evidence of the need of potash, in which case nitrogen should be avoided. Potash may be supplied by giving an application of sulfate of potash used at the rate of 8 to 12 ounces to 50 gallons of water per 100 square feet at intervals of ten days to two weeks, or, the undissolved sulfate of potash may be sprinkled at the same rate per 100 square feet. This application should be followed for the second and third application, by lime at the rate of one pound to 20 square feet. If the plants are growing well, but are not making flower buds, they should be given liberal application of phosphoric acid in the shape of steamed fine bone or if it is desired to avoid the nitrogen entirely supply superphosphate at the rate of one pound to 100 square feet, followed in a short time by an application of lime as in the case of potash.

If there is reason to believe that a complete plant food is necessary to promote the growth of the plants the following combination of material is recommended: one fourth lb. nitrate of soda, one pound acid phosphate, 1-2 pound sulphate of potash for 150 square feet of area. The following formula is recommended by Professor Stewart of Indiana and is a complete fertilizer for roses.

Superphosphate, 130 pounds, sulphate of ammonia 13 pounds, nitrate of soda 31 pounds, sulphate of potash 26 pounds.

He recommends one ounce of this mixture to one gallon of water for two square yards of bench surface, once a week as the plants need it. One who pays close attention to the food requirements of their plants as well as to the physical condition of the soil will have much better success than from the general haphazard method so often practiced.—Geo. Wright.

ALASKA'S FLOWERS.

People who have never visited the Territory of Alaska and are not familiar with its resources and conditions generally, naturally are a little incredulous when we speak of the soil, the botanical experiments and conditions that exist and have existed perhaps for centuries before this great empire came under our government.

From time immemorial, since the first sowing of the seed in this north-land by the hand of the All-Divine Planter, the wild flower has borne life from its soil and lifted its graceful head and beautiful face upturned to the sun and blue sky, with as much vigor as any hot house plant or outdoor flower in California. As many as 130 varieties of wild flowers have been found in the district of Nome, between the 66th and 64th degrees north latitude, along the coast of Bering Sea. I have spent hours and days among the hills and lowlands gathering the little waxen petal flower—of every tint and color—so beautiful and dainty in texture and color that the sweet breath of heaven had but merely touched them and left the blushes of love messages upon their petals.

I found myself acquiring somewhat of a persistent fad, in searching for these feather-tinted flowers, that I might find one to outrival the other in color. I have walked miles upon the driftwood, along the overflow of Snake River (a name very appropriate to this river from its tortuous windings) in search of the cowslip, of the deep yellow hue, with the rubbery stems; also a small, white lily, with shell-like tinted center, with these same long shrubby stems, which grew along the water's edge. They seemed conscious that I was in search for them, for they were in hiding here and there among the driftwood.

The foothills and lowlands that slope down to the sea, through the months of June, July and August, are veritable gardens of wild flowers, mosses, ferns, etc. The reindeer moss is the moss upon which the reindeer subsists; it takes the place of grass and grows everywhere in abundance. It is of a silvery gray and various shades of green; turns gray after frost, but remains nutritious. This moss forms beds everywhere for the wild flowers and ferns. As you wander through the lowlands following the small streams toward

the majestic Sawtooth range—with its snow-white caps—forming a back ground to the soft old green of the foothills, you see a picture of grandeur and beauty.

Among these foothills flowers are to be found in extraordinary growth and strength; the white and blue, violet, sweet Williams, bluebells, lilies, buttercups, Marguerites as large and beautiful as the cultivated ones. The tall for-get-me-nots in the rich, delicate blue, and the white, can be found by the acres, spreading their fragrance. These, to my mind, are the most bewilderingly beautiful of all.—By a writer in the Washington Star.

THE CALLADIUM AND ITS LESSON.

What a teacher Nature is! Her students find songs and sermons and lessons on every page of her great open book. Did you ever get the lesson suggested by the calladium—that great elephant-eared-like plant so common on our lawns? Watch its development. Each germ of its bulb or tuber send up a single snoot or stem which soon after leaving the ground develops into a leaf, though small and insignificant as compared with other leaves developed later and in succession from this first one. Folded in this leaf-stock born soon after this first leaf fully expanded. This second leaf has an ambition to be larger and more perfect than its parent, an ambition that is fully realized, if it lives. Its leaf-stock in turn furnishes another leaf, larger and better in every way than its parent, and thus there is a progressive development until the last leaf is many times larger and more beautiful in form and shading than its original.

Should there not be a similar development in human life and character? Ought not the son and daughter with the added opportunities that come to each successive generation be stronger and greater intellectually, morally and physically than their parents—whether these parents are poor or rich, low or high, uncleaned or learned, vicious or virtuous, sick or well?

If every boy and girl, in every home in every land should they imitate the calladium in growth and development. They should put forth every effort to be better in every way than father and mother; the old world would soon be a veritable Paradise, with precious little use for constables or sheriffs, for prisons, poor-houses or police. Nor would there be nearly so much use for lawyers, doctors or even preachers. We would have to put up with the undertakers all the same. Let us be calladium-like—let us be progressive!—Josiah Forrest Kennedy.

CHILDISH INNOCENCE.

"Gracious, Fanny!" exclaimed a mother to her little daughter, "why are you shouting like that? Why can't you be quiet like your brother?"

"He's got to be quiet," replied Fanny. "He's playing papa coming home late."

"And who are you playing?"

"Oh, I'm playing ybu."—Harper's Weekly.



GOOD ENOUGH SULKY PLOW

"The Best Plow on Earth for the Money." 30,000 Farmers bought them last season. Different sizes and styles of bottoms can be worked on same plow. Ask your dealer.

MOLINE PLOW CO., Moline, Ill.

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The Vegetable Garden

NEXT YEAR'S GARDEN.

THIS is a good time to get ready for next year's garden. Compost your stable manure, poultry manure, ashes, weeds, every old thing which will rot and have something valuable for the rows of choice vegetables next season.

Prepare ground as it becomes valuable for future cropping. The mechanical condition may be improved by spading or plowing a liberal supply of coarse manure, and if it is very 'dobe,' apply a dressing of gypsum.

Disposal of rubbish in a compost pile will accomplish two things: First, give a good article for future use in garden. Second, get rid of breeding place for next year's cutworms.

Get off the superfluous grape

yellowish pulp that has the peculiar guava flavor. In the middle part of the pulp the small seeds are embedded.

There are several varieties of the common guava which are sometimes cultivated; distinguished by the shape and size of the fruit, color of pulp or skin, or paucity of seeds. The best guavas sometimes form desert fruits, or are eaten stewed with sugar, or are made into preserves. The firm jelly prepared from this fruit is much appreciated by many good prices in Europe when put in an attractive form.

The guava is quite a variable plant, and therefore considerable improvement could be obtained by selecting and propagating the superior individuals by grafting or by cuttings.

Other species of cultivated guavas

cents per pound in 1907, for those in the natural state, and that of shelled peanuts imported in 1898 was 2.4 cents per pound, and in 1907, 4.5 cents. West Africa and the East Indies are the principal sources of supply of the peanuts entering the international markets of the world. The exports of peanuts from the French colony of Senegal on the West coast of Africa were, in the latest available year, over 300,000,000 pounds; those of British India being a little less than 200,000,000; Gambia, on the West coast of Africa, about 100,000,000; the Dutch East Indies about 50,000,000, while China, Japan, Argentina, Spain and the United States also supply comparatively small quantities.

When this fiscal year closes we shall have to list peanuts for nearly \$1,000,000 of our total foreign commerce for the year, according to the Bureau of Statistics of the Depart-

Cabbage needs the ground stirred often. You can plow them up until they head to advantage. To grow the best cabbage it would be well to cultivate once a week until they are grown. No crop responds more to work and manure than cabbage. You can hardly put too much of either. You can plow with a cultivator or a broad-sweep, and can keep clean and crust broken in row with your hoe. It will pay to stir the soil even when there is no grass to kill.

Thorough tillage destroys weeds, but accomplishes more. It breaks up the caked surface of the soil, thus obliterating the capillarity that brings moisture to the surface and allows it to escape; a dust mulch is established. Tillage loosens the soil and admits a free circulation of air; in this way oxidation is promoted. At the same time roots penetrate the loosened soil more easily.

By frequently using the rake a saving of labor may be made in the garden. Very young weeds may be easily destroyed by passing the rake between the rows, while by allowing the weeds to remain until well rooted a hoe may be necessary. Economy of labor is in keeping weeds and grass down as fast as their seeds germinate.

Grapes are a winter-keeping fruit and are very valuable for that purpose. What greater luxury or more wholesome than fresh grapes on the table all winter and no one so poor who may not enjoy plenty of his own growing. The value of grapes for winter use is not fully appreciated.

Possession is said to be nine points in law. This is certainly true of weeds. When they once get possession of a field it takes about nine times the labor to get rid of them that would be needed if they had been held in check from the start.

In no place do asparagus, green peas, green corn, berries and similar delicacies taste so good as in the well-ordered home around which they are grown.

When good plans, pluck, industry and economy bring success to one it galls him to know that his neighbors say, "Jim always was lucky."

Strawberry Plants

500,000 each of Brandywines and Excelsiors ready for August planting. My plants are thoroughbred—the only kind its worth while to plant. Brandywines, \$2.50 per thousand; Excelsiors, \$3.00 per thousand. Other varieties later with a full line of small fruit plants. Catalogue ready about September 1st., which I will gladly mail to all who will send their address and mention this paper.

G. H. Hopkins, Burbank, Cal.
Fairview Farm Nursery

CRIMSON WINTER RHUBARB

\$1.50 per dozen; \$6 per 100; \$40 per 1000. Plant now and get returns next winter. Pedigreed plants only.

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Alta Irrigation Canal

Courtesy Visalia Times

to throw the strength of the into the fruit. Do not cut into old wood with the bark on or the will bleed. This treatment will for a larger setting of grapes next year.

Mulch your rhubarb plentifully, when next winter comes—if its a variety—you will be well re-

THE GUAVA.

The common guava (Psidium Guava) is a member of an American family of about 130 species, many of which have edible fruits. It belongs to the order Myrtaceae, and is related to the rose-apple, Java plum, cinchona cherry, pomegranate and guava.

The common guava is a shrub of 6 to 15 feet high. The leaves are papery, elliptical-oblong, with depressed pinnate veins. The flowers, about one inch in diameter, are borne in the axils of the leaves, one or more in each axil. The flower possesses a tough green calyx, which splits irregularly when the bud opens, allowing the expansion of the four to five white petals and the numerous stamens.

The fruit is commonly oval or globular, of lemon-yellow color, and is encased with the dry calyx. It is fragrant, and on healthy trees may be two to three inches long. The tender skin encloses a reddish or

are the Brazil and the Guinea guava (Psidium Araca), the strawberry guava (Psidium Cattleianum), and the Costa Rica guava (Psidium Friedrichstalianum).—Florida Agriculturist.

PEANUTS.

Peanuts are beginning to form an appreciable and rapidly growing item in the foreign commerce of the United States, especially in the import trade. Despite the fact that this country produces probably twelve million bushels of peanuts annually, her exportations have been in such inconsiderable quantities that the Government Bureau of Statistics has only recently found it necessary to include peanuts in its list of articles exported. Meantime the imports have also rapidly increased and the total foreign commerce in this article in the year about to end will aggregate nearly one million dollars, the imports having grown in value from less than \$5000 in the year 1900 to about a half million dollars in the present year, while exports for the year will approximate about three hundred thousand dollars. Prices of peanuts have also greatly advanced in the foreign markets, the average valuation of imported peanuts, based upon wholesale prices in the markets from which they are sent to the United States, having advanced from 1.1 cents per pound in 1898 to 3.4

ment of Commerce and Labor.

The peanut acreage in this country increased 150 per cent and production 233 per cent between 1890 and 1900. There are under cultivation now 517,000 acres, producing 11,905,000 bushels. The crop is concentrated in a few Southern States, Virginia supplying one-third of it, North Carolina another third.—Coleman's Rural.

PLANTING TOMATOES.

Any ground that will grow potatoes is good for tomatoes. Plow the ground, harrow and drag till it is well pulverized, lay off in rows about four feet apart and set plants about four feet in row.

When setting, cover all the stem up to the leaves. This has a three-fold purpose. It protects the plants from drought, keeps them from breaking down during a wind and gives them more room for roots.

Cultivate as for corn or potatoes until vines cover ground and there is danger of breaking them. If vines are pruned and tied up to a stake the fruit will be larger and more uniform in size, but vines do not yield as many tomatoes as those left to spread on ground or on a rack.

We find they do splendidly and the fruit keeps clean if they are mulched with straw after they are cultivated the last time.

California Horticulturally

THE WHITE FLY PANIC.

THE White Fly is still the all-absorbing topic of interest with the orchardists of the State, especially of those interested in citrus fruit. The discovery of this pest has been a good story for the daily papers and they have not failed to make the most of it, and one would think to read some of the articles regarding it, that it was about to sweep like a tornado over the State leaving death and destruction in its path.

There is no question that this is one of the worst pests that has ever obtained foothold in our State; that it is a threatening danger to our citrus industry, and that every effort should be taken to prevent its spread, if it cannot be stamped entirely out. But there is still no need for panic. It has probably been in the section in which it is now known to exist, for the past three years, steadily increasing and spreading over a limited area. Even if no efforts were made to check it, it is probable that it would be many years before it obtained a footing in the great citrus section of the State. So, while immediate action is necessary, and has been taken, there is ample time in which to check its spread and comparatively little danger of its getting outside of its present limited area.

State Horticultural Commissioner Cooper has taken immediate and active measures against the pest, and it is now so far under control, that with careful watching—and this is a work of several years to come—there is very little danger of its spreading, and every probability of its being entirely suppressed. With the work that has been done, with the care that is planned to guard against it in the future, and with equal care on the part of the different County Boards of Horticulture, there is a very small chance indeed of its spreading to the citrus sections or even getting out of its present limited area.

BIG PRICES FOR FRUIT.

As the season advances there is no diminution in the prices commanded by fruit, and it is evident that the present season will be the best, so far as prices go, that our fruit growers have had in many years. Prunes have sold as high as \$40 on the tree. Apricots have been sold at \$100 per ton, and none commanded less than \$60. Peaches are quoted at \$60 to \$90 and pears at \$70. Of course, these prices are due to the smallness of the crop and are not likely to continue, but they contain a hint to the fruit grower and show what might be done by co-operation, which would preclude the possibility of glutting the market in seasons of good crops. Dried peaches are quoted at 12 cents a pound and apricots have sold at 25 cents. These prices recall old times when fruit growing paid.

SWALLOWS ARE BENEFICIAL.

The Watsonville Register says that "George W. Sill has made the discovery that swallows are feeding upon the beneficial ladybugs that have been doing great work in annihilating fruit pests in his orchard. The birds have been caught with the

goods and Mr. Sill has declared war of extermination upon the feathered marauders."

Swallows are wholly insectivorous birds and catch their prey on the wing. Naturally, they do not seem to discriminate what is good and what is ill from our standpoint, but catch any insect that flies. In this work they will frequently capture ladybug and other beneficial insects, but for every beneficial insect so caught they capture a host of injurious one and can be forgiven for their ignorance of what we require of them. The swallow is among the most beneficial of all our birds and should be protected by every means, and not exterminated because among the myriads of injurious insects devoured by it, it sometimes captures those which are of service to us.

LITTLE PEACH BLIGHT.

There was quite a peach blight scare last season, caused largely by the knowledge of the serious damage done by the pear blight, and it was generally supposed that the peach blight was a kindred disease. It was stated in these columns at the time that the disease was of a fungus nature and its spread was due largely to climatic conditions, that it was not likely that it would be serious this season, as conditions would probably be different. The result has proven this true, as reports from all sections are to the effect that it has done little damage this year. The pear blight, however, is a different proposition. It is bacterial disease and is here to stay.

FRUIT GROWERS TO MEET AT MARYSVILLE.

It has been definitely settled that the next Fruit Growers' Convention is to be held at Marysville. This is in the way of a concession to the city for the losses its people have submitted to in the destruction of their orange trees to prevent the spread of the White Fly. The convention will open on Tuesday, December 3rd, and among other matters of importance to be considered, the White Fly will, of course, occupy a leading place.

PARASITES FOR DISTRIBUTION.

Parasites for the codling moth are now being sent out from the secretary of the State Commission of Horticulture, at the Ferry building, San Francisco. These insects are breeding out in large numbers and being widely distributed. Reports from sections where they have been established in the past speak well of their work.

GOVERNMENT ENTOMOLOGIST HERE.

Prof. Quintance, one of the leading entomologists of the United States, and who is connected with the Bureau of Entomology at Washington, has been making a tour of the State during the past month in the interest of his department, and for the purpose of establishing stations for the study of various insect pests in the State. The work will be left in the hands of Dudley Moulton, formerly Horticultural Commissioner of Santa Clara county.

In rare families as in rare books the editions are limited.



Does this stream of water look good to you?

It certainly does to the two men standing beside it. They are the President and Treasurer of the company to whom the plant belongs.

It is raising 40 inches of water from 250 feet below where they are standing. This water goes into a reservoir 18 feet above the pump through an 8-inch pipe-line about one-eighth mile long and you cannot see a pulsation in the discharge if you try. It has been doing this for over a year. There have been no repairs, not even new leathers, and it runs better, if such were possible, today than it did a year ago.

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With the Citrus Growers

FIGHTING WHITE FLY WITH FUNGI.

A bulletin by Dr. E. W. Berger on Florida White Fly conditions, we note that nature's method of being used in Florida. With it goes the spraying. And later, on Mr. Strong's reports, we learn fumigation is still more successful. Regarding the Fly fungi, we quote from Dr. Berger:

The exceptionally low temperature Christmas time of 1906 has resulted in a partial or complete defoliation of citrus trees in some northern sections of Florida, and this again brings up questions of White Fly control under such circumstances.

Fungi.

In trees and groves where the deadly fungi (the Red, Yellow and Brown) parasitic upon the White Fly are found in abundance, it is advised to collect large quantities of dead leaves still clinging to the trees, or fallen leaves, with plenty of fungus upon them. These should be dried and stored, since the fungus may be useful for again starting it on the trees and groves next spring. Methods for introducing the fungi by spraying the spores suspended in water on the leaves infested with White Fly, or by pinning on leaves, when dried have been developed. The fungi when dried have been found to retain their vitality for two months, and further observations may extend this time. Should the leaves with fungus collected prove useless by the time that they are required, little or no will have been lost. Specimens sent to the station at the proper time will be gladly tested for their vitality.

History Facts.

During December, January and February there are probably but few any unhatched eggs or adults of the White Fly; all are in the young scale-like stages and live attached to the under surface of the leaves. They are easily killed by spraying while in these stages, provided, of course, that the spray comes in contact with them. Drying the leaves will kill them, hence all the young insects on leaves dropped by freezing will, with the possible exception of those nearly matured. For the latter reason all dead and dropped leaves should be destroyed, plowed under or burned, excepting those wanted for the fungi on them.

Completing the Work.

Now, in view of the fact that freezing has begun the work of defoliation, it appears desirable to complete or take advantage of the reduced number of leaves and spray with the termination to kill every remaining White Fly larva upon the tree; even going to the extent of using a spray sufficiently strong to complete the defoliation. One drastically thorough spraying at any time is better than several less thorough ones. Spraying, furthermore, cannot be made effective unless all co-operation. If but few green leaves remain on a tree it is advised to complete defoliation by trimming. If, to complete defoliation, spraying is adopted, this should be done at once before the new buds start.

While in the above the writer has emphasized spraying, yet he does not

for a moment desire to leave the impression that he is an unqualified supporter of spraying for the White Fly. On the contrary, he considers spraying only in the light of an expedient, a makeshift, and firmly believes that the solution of the White Fly problem is closely bound up with whatever success we can achieve in devising sure and ready methods for introducing the fungi and other parasites. In other words, the solution of the fungus problem will be the solution of the White Fly problem, and it is believed that the solution of each is at hand. The reader is again referred to Bulletin 88, which will be ready for distribution in a few days.

For more complete spraying of

information as to their methods and results in citrus culture. By incorporating this information with the proceedings of the Institute into a systematic bulletin on citrus production it has seemed that a much more valuable and authentic publication can be produced.

The survey will be completed within the next month and a bulletin then issued, showing the most noteworthy methods and results in various sections and various types of soil, rather than simply a disconnected series of papers written from a limited number of local standpoints.—Ralph E. Smith.

MEDITERRANEAN FRUIT FLY IN AUSTRALIA.

Consul-General J. P. Bray reports from Melbourne that much consternation has been caused by the discovery in many of the orchards in the State

orchards of the whole of Victoria is to be made and every possible step taken by the authorities to eradicate the evil and prevent its further introduction by either the total prohibition or a rigid inspection of all fruits imported from places where the pest is suspected to exist.

California doesn't want this fly and no effort is too strenuous to so guard our ports as to exclude it.

The following recipe for a waterproof paint for wood or stone will be found reliable: Melt twelve ounces of resin; mix it thoroughly with six gallons of fish oil and one pound of melted sulphur; mix some ochre or any other coloring substance with a little linseed oil, enough to give it the right color and thickness; apply several coats of the hot composition with a brush. The first coat should be very thin.

Farming is no better and no worse than any other honorable occupation. All depends upon the man. There is plenty of room anywhere to show character and brains, and likewise to exhibit all kinds of stupidity and meanness. Anybody can find his place, and that usually without changing his occupation.

White Fly in Kern County

ANOTHER pest center has been found where the White Fly, *Aleyrodes citri*, has a firm foothold. This time it is in Kern county and two or three hundred miles nearer the great citrus orchards than the Marysville infestation.

The trees infested are on the ranch of W. S. Tevis. E. K. Carnes of the State Commission has given a thorough inspection and found all of Mr. Tevis's citrus trees affected and immediately ordered a quarantine, which has closed the beautiful grounds to the use of the public.

The associated press reports: "Mr. Tevis considers the discovery of the White Fly a great blow to the agricultural interests of the country. He explains its presence on his property by believing citrus plants imported from Florida two years ago were affected and in their transplanting gave rise to the spread.

"It is probable that all citrus trees on the big estate must be destroyed to prevent the spread of the pest. Tevis is greatly disappointed, as a collection of rare and valuable trees has been his chief hobby and those which he had at Stockdale represent the selection of a lifetime."

rections see Bulletin 76 of this Station.

Plants to Comdemn.

It is also pertinent to the subject in hand to emphasize the necessity for destroying all unnecessary breeding places of the White Fly. Under this head belong the following trees: Cape jessamine, privet hedges, all useless and abandoned citrus, china-berry and umbrella trees, viburnum nudum, and the mock orange (cherry laurel) when infested. Of these the cape jessamine may be defoliated, but the work must be complete. All the others should be cut down and burned. During summer these trees are such prolific breeding places for the White Fly that the latter becomes scattered far and wide.

PROCEEDINGS OF THE RIVERSIDE CITRUS INSTITUTE.


In response to many inquiries we would announce that the publication of the papers and addresses of the Citrus Convention held at Riverside, in January, is in preparation, but has been somewhat withheld for the collection of additional data along the same line. The suggestion was made at the Institute that this material would have much greater value if supplemented by fuller and more definite information as to citrus cultural practice, collected personally from some of the most successful growers in the various sections.

With this idea in mind a citrus survey has been undertaken by the station, sending representatives to a large number of growers in all the important citrus districts of Southern California, and securing from them

of Victoria of the existence of the pest known as the "Mediterranean fruit fly. He writes:

It has been positively identified by the government entomologist and has been found in many widely distant localities. The orchards of the States of Queensland and New South Wales have been subject to the pest for some time, and as the result of an investigation just made it seems to be conclusively proved that Victoria owes its introduction to the importation of bananas, oranges and cucumbers from the former State, as the larvae of the fly has been discovered in large numbers on those fruits when landed on the Melbourne wharves.

A thorough inspection of the or-



Oranges and Lemons

When the right varieties are properly grown and planted, are money makers. Our new booklet on Citrus Culture tells all about the standard sorts, planting, cultivation, irrigation and packing the crop. Over 100 illustrations and something like 50,000 words of text. The price is merely nominal, namely, 25 cents. May we have your name for a copy?

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San Francisco Market; New York Citrus Market;
California Citrus Shipments, 166-167.

WINTER FUEL.

If we are to judge from what we read in the daily exchanges, fuel is going to be scarce again this winter, especially coal. Last year much suffering was endured because the coal supply ran short at a time when it was most needed.

We would advise our readers, who are not within reasonable distance from towns, to put in their fuel early. It will probably be no cheaper later, and it may be higher. The best course to pursue is to provide against want while the opportunity exists to do so.

Better still, why don't the farmer grow his own fuel? It's easy. It's economical. And it gives absolute independence.

FRUIT GROWERS ANXIOUS.

The visit of Secretary Wilson to the Pacific Coast will result in benefit to the fruit growers of California. In a meeting held at San Francisco, last week, the secretary listened to the protests of representatives of the dried fruit industry from several points in California against the ruling of the department on the maximum amount of sulphur prescribed for use in dried fruits. They undertook to show the secretary that if the present ruling is adhered to immense damage to the fruit growers will result.

They inquired if they would be prosecuted if they did not use the formula prescribed by the Department of Agriculture and plainly told the Secretary they would be ruined if not allowed to raise the maximum of sulphur laid down by the chemists under the Pure Food Commission.

In reply Mr. Wilson told the fruit men that the Pure Food Commission would not proceed against them or against any class of producers of foods who honestly, by the best light they have, endeavor to conform to the rulings. "I have given this assurance to many perturbed interests," said he, "and if modifications in your case are necessary to protect you, they shall be made. I am a farmer myself, and it would ill become me to do anything against your welfare."

With this assurance the growers are going ahead, sulphuring their fruit in trays, convinced no injustice will be done them by the government if they do the best they can to save their fruit.

FACING LUMBER FAMINE.

Secretary Wilson says the United States is facing a lumber famine. He is not the first one to make this declaration. Statisticians have said also, that in a comparatively short time, our timber belts will be exhausted and we shall be out of lumber for building purposes.

Although the Federal government is doing all in its power to ward off the peril, having set aside 150,000,000 acres of forest reserve lands, the prospective famine, according to Secretary Wilson, can be prevented only by the individual holders of forest lands or by State laws.

"The waste has been incalculable," says Secretary Wilson, "and the increased cost of lumber at present heralds an impending famine. The loss by forest fires alone amounts to hundreds of thousands of dollars every year."

In reply to a question as to the probability of the Federal government taking some action for perpetuating the forests by replanting, Secretary Wilson said recently:

"It will have to come to that in time, but the checking of the present peril rests with the State and through State laws. The greater part of the Eastern and Middle West country now looks to the Pacific Coast for its lumber, and if the Coast States wish to maintain this profitable industry in the future, they will have to pass and enforce suitable laws governing it."

THE TEN ACRES TRACT.

Very often the Cultivator receives inquiries from Easterners desiring to come to California, asking what can be grown on ten acres with profit.

The question is, and is not, difficult to answer. Climatic conditions are so varied in this State, and the markets are so different, from season to season, that anything like a hard and fast rule is not easily laid down. These points make it hard to speak from the card; but, on the contrary, there are so many products which may be grown on ten acres to advantage. We feel little hesitancy in saying that with proper climate, water for irrigation and intelligent cultivation, a dozen or more products may be grown, any one of which will give good results.

A farmer does not actually need ten acres to make a good living on. Five acres well tended, in a good location, near market, with proper soil and cultivation, water of course included, will make any man a good living. Vegetables, fruits, nuts will pay, while alfalfa and a few cows will make money.

All any man needs in this State is land and water, location near a good market and horse sense to make money. Better five acres than ten if rightly farmed, for in proportion as much or even more money can be made.

The advice to all newcomers to California, which the Cultivator would give, is to study well the conditions of the locality which pleases you, find out what is best suited to its conditions, and farm in accordance with that information.

HUMANE SHIPMENT OF STOCK.

Congress at its last session passed an important amended law relating to the humane shipment of live stock. For three preceeding sessions this matter was before Congress and Secretary Wilson was doing all he could to have a humane live stock shipment law passed.

The importance of the statute will appeal to the farmers and packers, not only from a business point of view but from a humane point as well,

because as the Journal of Agriculture states, "it assures that cattle, hogs, sheep and other animals will reach the market in the best possible condition."

Those of us who have been shippers of live stock know to our sorrow the losses sustained on every carload of hogs and cattle sent to market, because of the neglect of the transportation companies having them in charge. The new statute provides heavy penalties for the mistreatment of stock in transit on trains, boats, etc., and much good has already been accomplished by its enforcement. The new law requires railroads to feed and water stock at station intervals, and to furnish ample room for animals in stock cars. It also provides for regular care of stock and comfortable quarters on boats. The live stock industry is one of the greatest branches of agriculture, so that any movement looking to the betterment of conditions affecting the animals or their owners, should receive the hearty support of all classes of people. The humane side of the question should bring every citizen to the support of the measure regardless of whether he is a shipper or not.

AGRICULTURE AS A SCIENCE.

The President, in opening his address at the recent semi-centennial celebration of the Michigan Agricultural college, made prominent reference to a fact which the agricultural world has probably overlooked. He stated that the Michigan Agricultural college was the first college of the kind established in the United States and which has maintained continuous existence up to the present time. The subsequent history of agricultural colleges dates from the Morrill act of 1862. This act passed by Congress provided for land grants by the government to the nation to encourage State colleges for education along agricultural lines.

The distinctively agricultural college dates from Michigan's action in 1855. In most States of the Union such schools are now recognized as essential adjuncts of the educational system. Farming methods have been wonderfully revolutionized in the last half century and even in the last quarter century. Scientific knowledge is as necessary to complete success as in other branches of industry. The farmer who wants to make the most out of his occupation must keep in close touch with all that intelligent investigation is making known.

TAKE A DAY OFF.

"Some farmers think," says the Deseret Farmer, "that they cannot spare a day from their work during the summer time. We do not believe there was ever a farmer who lost anything by taking a day off and visiting the Experiment Station, the County or State Fair, or the Farmers' Institute. The successful farmer is using more brain and less brawn."

It is an encouraging omen of the progressiveness of our California farmers, that they quite generally attend farmers' institutes. Still the number is not as large as it ought to be, for these institutes are the source of immense value to the farmer in the information they impart.

Kansas wheat growers are distressed beyond any previous years to obtain labor to harvest the crop. The papers say the farmers meet all trains and offer as high as \$3.50 a day to every man who will stop and work. In the towns the business men have entered into an agreement to close their stores and let all their male employees go to the harvest field until the wheat is in the shock. The Santa Fe, Union Pacific and Missouri Pacific railroads have been appealed to for help, and it is proposed to have all the shopmen, track walkers and as many trainmen as can be spared laid off and sent to the harvest fields for a month.

"Why is there a tariff on lumber when not enough can be had in this country to meet the daily needs?" Asks the North Dakota Farmer. "Have you ever thought of this? Or why is there a tariff on farm machinery? Is it not time that the American farmer had some protection and not the lumber barons or farm machinery trusts. Farmers, think it over and then ask your U. S. Senator what he thinks of it?"

News of Country Life in the Golden West

Southern California

Northern California

AGRICULTURE.

Lawley is to have a new creamery. A resurvey of the Imperial Valley is to be made.

Paheim estimates \$50,000 as the return from her spud crop.

Orange county honey output will aggregate about one hundred tons.

Coachella Valley claims the output of 10,000 worth of Bermuda onions.

Orange county celery crop is promised to be one of the biggest and best ever.

See Warden Reed of Riverside has force of men shaping up the street in that city.

President Roosevelt has by proclamation added thousands of acres to Sequoia forest reserve.

Secretary Garfield is reported to have said that the Laguna dam is a key to the control of the Colorado River.

In Bernardino county bee inspectors reports that the colonies of bees killed last year for foul brood show no disease this year.

Canaster, in the Antelope Valley, claims one of the biggest balers ever built. It is the property of the California Colonization Co.

State Dairy Inspector Star is after Santa Ana dairymen and is threatening arrests unless corrections in the milking methods are made.

A big scheme of the Covina people to have vast quantities of storm water for summer use is still being pushed, and is deemed a wise move.

Judge Wellborn of the U. S. District Court has rendered a decision invalidating a \$31,000 bond issue of the Riverside irrigation district.

The government is busy strengthening the levees of the Colorado River near Yuma. This work is made possible by the lowering of the river. Secretary Garfield in his visit to California made a personal investigation of the Laguna and Roosevelt dams being constructed by the Reclamation Service.

The land frauds developed in the clearing up of government claims in the Imperial Valley are being investigated by the United States Land Office at Los Angeles.

A woman at San Bernardino, who was exasperated by boys stealing her fruit, took a shotgun and her aim being good, she seriously wounded a ten-year-old boy.

The lands about Beaumont are promised extensive improvements in the near future owing to a recent transfer from the San Francisco bank to a live company which will develop them.

The Pasadena veterinarian, who has been endeavoring to give the tuberculosis test to all cows furnishing milk in that city, has found he is up against a gigantic job. He says it will require one full year to make all the tests.

A plan is being worked out to secure the "sweetening" of the waters of El Estre Lake. It is extremely alkali, owing to vast deposits washed into it, and the scheme contemplates running a tunnel draining away the water and removing the alkali, then when filled with fresh water. It will reclaim 10,000 acres of arid land.

HORTICULTURE.

"Oranges ripe in six weeks" is a heading in the Riverside Press.

Azusa claims strawberries five and one-half inches in circumference.

One ranch at El Modena will ship three hundred thousand rose bushes this season.

The exact count of the Redlands district shipment of oranges makes a total of 4062 cars.

Ventura claims to be the home of J. A. Day, who first introduced the sulphuring of fruits.

The Duarte-Monrovia Fruit Exchange has paid its members \$171,000 within the past season.

One acre of Riverside strawberries will net its owner \$1000 as a result of the last year's culture.

Twenty-five carloads of watermelons were shipped from the Coachella Valley this season.

Riverside claims to be the headquarters for oranges, and is now boasting over the finest peaches ever.

Ventura apricot growers are making every effort to secure a change in the ruling of sulphuring of fruits.

Commissioner Cundiff of Riverside county is experimenting with a new emulsion for the eradication of scale.

Another shipment of date trees from Africa into the Imperial Valley is promised by the government in the near future.

Coachella grape growers are having trouble with large numbers of quail which are making a raid upon the ripening grapes.

One hundred and fifteen Valencia trees at Redlands brought their owner a total of \$1510, or an average of over \$13 per tree.

In Ventura, the second county in the State in apricot production, orchardists have organized to look after the interest of the apricot industry.

The Orange Heights Fruit Association of Corona has purchased the packing-house of another company and in the future will handle both oranges and lemons.

Several Banning apricot growers report a yield of seven to nine tons to an acre. Robert Dixon received \$3180 for the apricots on 760 trees, and the buyer picked the fruit.

Agents of the Department of Agriculture are at Highland investigating the secretion of gum on newly-budded orange trees which has been more or less perplexing this year.

San Bernardino County Horticultural Commission cost the county about \$1000 per month, but active work is constantly under way in charge of Commissioner Pease.

The Southern California Fruit Exchange Eastern representatives are in California gathering information as to the coming fruit crop which they will sell the Eastern consumers next season.

Hemet has Redlands skinned a block in regard to its two lemon trees mentioned in a recent Cultivator. A. L. Rollins of Hemet has two lemon trees that brought him \$45 this year. This sum paid his entire taxes and irrigating and domestic water on his ten acres for the year.

AGRICULTURE.

The Porterville Enterprise urges everybody to plant figs.

Turlock cantaloupes sold for \$1000 in Chicago last week.

A large company is looking for location of cannery at Fresno.

A fruit dryer, near Saratoga, Santa Clara county, believes he has discovered a method of drying fruit without the use of sulphur.

Sonoma county has two hundred and twelve thousand bearing apple trees and five hundred and twenty nine thousand bearing prune trees.

The Selma packing house is running out large quantities of canned goods and is also buying dried fruit, regardless of the sulphur ruling.

A fruit grower near Porterville estimates that the crop of oranges will be very fair as to quantity, but that in size the fruit will be rather small.

Certain papers are declaring that Prof. Woodworth of the State University, has charged that the work against the White Fly in Marysville, has been a failure.

The story of boring of a hole into the heart of blighted pear trees and plugging up with Bordeaux or with some other mixture, has again been started in some of the Northern papers.

The residents, and especially the county inspectors at Marysville, are nettled by the insistence of the State University in taking a hand where Marysville claims it is not wanted.

Dried fruit producers, at Hanford, have delivered apricots to the Armsby Co. which had been sold on contract, but were refused because of the pure food rulings on the sulphur question.

The Exeter Sun says the fruit growers of that section are waging fierce war against fruit stealers. It is to be regretted that such steps are necessary, but the farmer must protect himself.

Papers in the lower end of the San Joaquin valley claim the cooler summer weather which has prevailed this year is owing to the larger body of water in the Tulare lake correcting its climatic conditions.

An appeal for an injunction asked for by Marysville fruit growers who did not wish to have their trees defoliated, has been refused and the State Board of Horticulture sustained in its right to disinfect.

The first brood of codling moth at Watsonville is claimed to be very active and doing much damage. It is claimed to be caused by the warm weather which has prevailed this season, and to the further fact that less thorough spraying has been the rule this spring.

Deciduous fruit dryers are feeling more reassurance in the dried fruit situation owing to the recent ruling in the department in which it is stated that "there is a disposition on the part of the department not to harass growers and packers in California." However, warning is given not to use an excessive amount of sulphur.

HORTICULTURE.

Hop harvest has begun in Sutter county.

The first lot of buildings at the State farm, at Davis, are completed.

Tulare grange is taking active hand in preparing for the Tulare fair.

The new Porterville creamery is turning out about 300 pounds of butter daily.

One hundred cattle were killed in a grass fire in the hills back of Lindsay last week.

The Turlock irrigation district is to extend its ditches so as to cover 10,000 acres more of land.

Petaluma is shipping eggs by the shipload to Alaska. The shipment consists of 1,728,000 eggs.

Stockton estimates that \$125,000 will be received from the onion crop of that section. Over 50,000 bags have been shipped already.

Pacific Sugar Company's plant, at Visalia, is a busy place with one hundred and fifty men turning out about forty tons of sugar daily.

Tehama county expects great benefits from the construction of the government for the Iron Canyon dam which is now confidently expected.

The work on the Big sugar factory at Corcoran is now well under way, and it is claimed a round million of dollars will be spent on this great property.

San Benito county poultry raisers have combined in rebellion against the charge for returning the empties under the new ruling of the Express Companies.

San Joaquin county claims to raise by far the largest portion of the potatoes of this year. There are over twenty thousand acres planted to potatoes in that section.

The Buena Vista levee break in Kern county has been closed, but there is still fear of further break and workmen patrol the section of danger night and day.

Visalia's effort to construct a large drainage canal around the city has failed because of the cost being greater than she could bear at this time. The estimate is approximately \$100,000.

The Pacific Sugar Company, at Visalia, is considering the building of about twelve miles of road as the feeder for its factory from sections where they cannot get livable freight rates.

The Ukiah Times reports some sales of hops at six and one-half cents. One purchaser is offering to make contracts for hops for the coming three years at ten and one-half cents per pound.

The Co-operative creamery now in operation at Porterville promises to be a complete success, not only as an institution, but for the farmers living in that section who will be enabled to command better returns for their productions.

The Alta Advocate, of Dinuba, refers to a farmer's purchase of three pigs for \$7.20 which after four and one-half months' feeding on skim milk he sold for \$72. We imagine there must have been some alfalfa mixed with the skim milk.

PER
2 BUSHEL
SACK

\$1.90

PER
2 BUSHEL
SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by all largest and best breeders in the country. Thousands of poultry-men are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultry men who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My Dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Flecher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland.
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis and Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 505 South Main Street.
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Beef Scraps Raw Bone

GUARANTEED ANALYSIS:

Protein65%
Fat8%

Made of Cooked and Dried Livers, Lungs, Melts and Clean Scraps. No fertilizer ingredients in these Beef Scraps.

GUARANTEED ANALYSIS:

Protein25%
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Made of Clean Beef Bones, surplus fat removed. Cleanest Raw Bone on the Market.

Pure, Clean Animal Matter Poultry Foods

WESTERN MEAT COMPANY SOUTH SAN FRANCISCO CALIFORNIA

Lincoln Avenue Poultry Yards

—Capt. Mitchell's S. C. White Leghorns—

To clear a few yards for young stock we will sell a limited number of extra choice breeders at half price until August 15th. They are all utility birds with conformations ranging from 150 to 250 eggs per year; prices from \$1.00 to \$3.00 each for hens and \$3.00 to \$25.00 for cocks. If you are interested come and see us or write.

CARL C. CURTIS, Owner

Lincoln Ave. and Ventura St., Pasadena, Cal.

Altadena
Cars

A GOOD TONIC ACME ROUP CURE CURES

FED TO YOUNG CHICKS WILL KEEP THEM HEALTHY AND VIGOROUS; THE OLD FOWLS WILL MOULT QUICKER AND EASIER; PULLETS WILL LAY EARLIER AND LONGER

LEE'S EGG MAKER

IS THE BEST TONIC MADE

LEE'S LICE KILLER
IS GUARANTEED

HENRY ALBERS CO.
315 SO. MAIN, LOS ANGELES

Beef, Blood and Bone Will Make Your Hens Lay

This is not a medicine but a high grade nitrogenous food. Write for free booklet, "How to make Hens Lay." Our Poultry Foods are sold by all local dealers and manufactured solely by

The Pacific Guano and Fertilizer Co.

Also Pioneer Manufacturers of High Grade Indiana and Yolo Sts., San Francisco, Cal. Fertilizers. Write for our free booklet, "Farmer's Friend." Valuable to all farmers and ranchers.

Profit in the Poultry Yard

We solicit short articles of a practiced nature from the fancier and utility breeder, giving their experiences with poultry. All inquiries pertaining to feed, management, disease and its prevention, will be answered through these columns.

IS YOUR POULTRY PAYING.

PERHAPS there is no branch of work on the farm that is run, regardless of profits as is the poultry yard. We have seen good flocks of poultry that had been turned out to shift for themselves just at the time when they should be given attention and be paying. It is an undisputed fact that the farmer can produce both fowl and eggs cheaper than the "city lotter," and yet we believe that if more care were taken in selecting, culling and feeding the flock that still more profit would find its way to the good housewife's purse.

How Many Are Laying.

My dear reader, did you ever try to cull your flock of the non-layers? Do you know that in all flocks of from 100 to 200 hens that a large per cent can be culled and sent to the block and yet you will get as many eggs. If you have never tried it, do so, and see the results. There are many ways of picking out the layers. One way is to use trap-nests. Most all readers of the Cultivator know what the trap-nest is, as plans and descriptions have been published several times in the last few years.

Although there are many flocks where the trap-nest would not be practicable; especially is this true when the birds have not been yarded. Every flock should be yarded during the breeding season. If this is done the layers can be picked out and put in a yard by themselves. A very simple and practicable test was made at the State Polytechnic school at San Luis Obispo of 158 hens. The test was made as follows: An attendant watched the hens for three days, and out of 158 only 65 were found on the nest during this time. This left 93 that had not layed for three days and were taken out and placed in a yard or yards by themselves, while the 65 were yarded by themselves. All were given the same care and feed and a close record kept from October till March. The 93 showed a net profit of only \$6, while the 65 showed a profit of \$71, or nearly \$1.10 per hen.

This is only one way of testing, there are many others. There are a number of books published which would prove beneficial in selecting the layers.

Thoroughbreds.

We would also suggest that if you are not breeding thoroughbreds to get a trio or a pen this fall, set up a yard for them, get them to laying and set their eggs. In this way even with a trio you can soon get a good start of standard bred birds, which you will find will pay better than mongrels. Besides there is a beauty in an even colored flock not had in mongrels.

MOLTING.

A great deal is being written in the poultry and farm papers, especially at this season regarding the molt. Some advise forcing the molt, while others do not believe in it. But it is generally accepted that it is

best to assist nature and feed a lot that will be suitable for the formation of feathers and the general building up of the systems.

If we wish our flock to molt through the molt early and uniformly we can accomplish it very easily. The method is to withhold part of the feed for about three weeks, feeding principally of vegetables and green foods, lawn cuttings, etc. and leave out the grain and meat ration.

After you have had your birds on this ration for about three weeks you will find that they have lost much flesh and are very thin. Then you should feed a rich nitrogenous ration, either a good molting food, one consisting of beef scraps, corn wheat and oats, with a little linseed meal. Always giving plenty of fresh water and good sharp grit.

Birds treated this way and kept free from lice will come through a molt better and will begin to lay earlier and be in better condition than those that are left to drift through the molt.

AROUND THE YARDS.

Many people start in the poultry business that don't "stay started."

Now is a good time to plan your advertising for the coming season.

Ten dozen eggs a year is the estimate as the average production of the hen.

One of the best green feeds at this time of the year for the chicken which are not laying is tops of green onions chopped fine and fed with chopped feed. They are invigorating and have a tendency to correct bow trouble.

If your chickens fly from you make a vigorous effort to get out your way every time you enter the pens, there is something wrong with your handling of them and you will not get the results you would otherwise.

Blood spots in eggs have nothing whatever to do with the germ of life; they are usually due to the bird laying them being over fat and the organs being weakened thereby, an effort to force the egg into the duct causes an effusion of blood in the egg.

Paddy Doolan went into a shop today to buy eggs.

"What are eggs today?"

"Eggs are eggs today, Paddy," replied the shop man, looking quite triumphantly at two or three young lady customers who happened to be in the shop.

"Faith, I'm glad to hear you say so," replied Paddy, "for the last one I got here were chickens."

Yolk Not Absorbed

I am raising chickens this summer and have had much trouble with them. The parent stock are strong healthy Buff Plymouth Rocks and White Leghorns. Are in prime condition, properly fed and have a constant supply of grit, charcoal, etc. and fresh cold water. Under the same conditions I have always had good hatches and lost only a few, any, chickens. But this year the chicks hatch fairly well and are strong until five or six days of then some of them begin to droop and gasp a few times and die. When I hatch them in both hot air and in

ter incubators. Tested the thermometers and run at 103 degrees, with very little variation, as either birds the temperature well. Feed until 48 hours old, then take them to the brooders and feed grit followed by Peerless or Chamberlain's Chick Feed; give grit, charcoal and shell in shallow pans and feed the chick feed in chaff from the manger. Of course we see that the fountains are kept clean and fill several times each day. Also feed them alfalfa and lettuce-heads. In brooders each morning and only 50 chicks in the 75-size. We have examined several and found heart, lungs and liver in normal condition, but what seems to be the lack of the egg has not been absorbed and is in fine granules mixed frequently with a green putrid-looking liquid. Sometimes the chickens "pasted up" and those usually while those that are not die after sleeping fifteen or twenty minutes. Can you tell me what is wrong and what to do, or not do, to remedy the condition? I have raised only about half of the chickens hatched, but these are fine.—A. R.

The above is rather a hard one to answer, for by the letter we would think the chicks had very good treatment and we can see nothing that would cause them to die, unless it is that at some time during the hatch the heat in the incubator was too high. While this might not affect the hatch it might cause a chemical action on the yolk, which would keep it from being absorbed properly. We have heard of chicks not being able to absorb the yolks, where the parent stock were fed on slop. In case in particular, where eggs were purchased from slop-fed hens and put in an incubator seemed to hatch very well, yet the chicks died, as you say yours do, and by a post mortem examination it was found that they had not absorbed the yolk at all.

Any of the readers of the Cultivator have had similar trouble, we would like to hear from them; also cause and remedy.

Partridge Wyandotte Standard.

What is the standard weight and coloring of the Partridge Wyandotte?—A. R.

The standard weight of the Partridge Wyandotte: Cock, eight and one-half pounds; hens six and one-half pounds; cockerel seven and one-half pounds; pullet five and one-half pounds. Color, male, head plumage, face, bright red; eye, red or bay; back, dark brown shading to yellow point; neck red, with a distinct black stripe through each feather; back, dark red; saddle, red with black stripe through each feather; breast, glossy black; body and fluff, black, or black slightly tinged with red; wings, primaries black, lower red; secondaries black with outer web red; covarts, greenish black. Tail, greenish black; under color of each section dark slate.

Female's beak, eyes and face same as male; head plumage, reddish brown; neck, red with black stripe through each feather; back, breast, body and fluff mahogany-red or reddish brown, distinctly penciled with very dark brown, the outlines of penning conforming to slope of feather; wings, primaries dull black with an edging of brown on outer web; secondaries, inner web a dull black, outer web, mahogany-red. Tail, black or brownish black; under color of each section dark slate; color of skin of both male and female, bright yellow.

Gos or Canker.

What is the matter with my pul-

lets? They are nearly big enough to lay and are continually opening their mouths and die in a few days. Are fat and in good condition.—C. M., Arroyo Grande.

The above is one of many like letters we receive. Often letters do not contain enough information for us to properly diagnose the case. The only thing we have to go by in this letter is the "opening their mouths." This might be caused by two things: either gapes or canker in throat. We hardly believe that it is gapes in birds at this age. Therefore, we naturally suppose that it is canker. Treatment, examine throat and if there is a white cheesy growth in throat clean it out with a stiff feather or a swab made of a soft cloth. Then put germozone on full strength, or a good rouse medicine will do.

Treat the Setting Hen Kindly.

My Barred Rocks are the most persistent sitters I ever saw. I have tried the open air prison dodge to no purpose. They go back to the nest like a duck to water when I let them out. Can you prescribe for a subscriber, San Gabriel.

Because the hen wants to set when you don't want her to, don't loose your patience, but treat her kindly. Perhaps the reason your hens are such prolific persistent setters is because they are too fat. A hen that is fat will have more animal heat in her body and will be more inclined to become broody. The open air prison or slot-bottomed roof that you speak of is a good way to break up the broody hen. Keep coop protected from the sun with plenty of fresh water. Feed sparingly of oats, green food and chopped vegetables, taking away all fattening foods.

Another plan that we have found very successful, is to confine them in a small pen with a vigorous cockerel from four to five days. After a few days we turn them back into the breeding pen, but always do so early in the morning. With this kind of treatment and food they generally start to laying in a very short time.

Swell Head.

I have read with interest your interesting articles on the care of poultry in your paper and would consider it a favor if you could give me your advice on a disease that everyone in this neighborhood I have asked seem to be totally ignorant, in fact, it left me with the impression that their knowledge of the extent of raising chickens had gone no further than the production part.

I bought a few Plymouth Rock thoroughbreds when they were about two-months old, and after a week or so I noticed that some of them had a swelling over the ears and eyes and as my knowledge of chicken disease was nil, I began treating them for mites. After a week their eyes began to get sore, closing completely until I put some sweet oil on them, then they would open or keep open two or three hours, a discharge coming from them and close up again, then they began to get very poor and sore under the wings; now it has come to the point that if I cannot find something to relieve or cure them, I think it would be advisable to twist their necks and put them out of their misery.

Would consider it a favor if you will tell me which is best, I know your time is valuable, but if you will strain this point it will be appreciated.—E. S. P. S., Pomona.

Your birds have "swell head" and roup, caused by catching cold by roosting in a draught or it may be caused by infection. Find the cause and remove it. Then separate the well ones from sick ones and treat as follows: Rub the heads with

Egg-More

for

Early Molt

Don't let your hens molt for months. Don't let them get all run down and out of condition. They need to be fed a scientifically balanced ration during this trying season. EGG-MORE is just the thing to mix with good grains to make the same a rightly balanced ration. Many so-called "poultry foods" and "egg makers" are nothing but stimulants and not advisable to be fed regularly. If your poultry are already in a run down condition,

West Coast Poultry Tonic

is what they need for a short time; that is just what its name implies. It is very easy to mix a lot of ingredients, much of it a little better than refuse and call it egg food. And even if good foods are mixed it doesn't make an egg food unless the ingredients are adapted to the requirements. Some mixers of "egg food" seem to think that it is the shell alone that is to be made, forgetting that the hen has no use for the shell until she has made the egg.

Egg-More

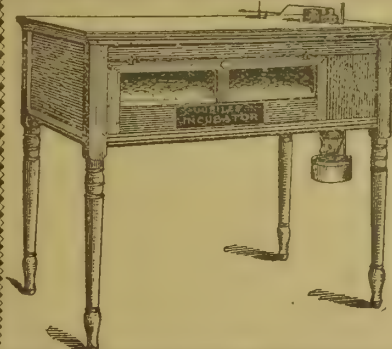
is a concentrated food, very rich in protein, and a small quantity mixed with ground grains, or even with bran, is just what is needed to make her molt quickly and then lay lots of eggs. It is made of just such first-class materials and in such proportions as has been proven by long practical experience to serve this purpose, and at the same time to build up her system and keep her in the best of health. When a small quantity is mixed with good grains, or bran, as directed in each package, it can be fed either as a mash or as dry feed. The hens like it, they eat it, there is no waste; it makes the cheapest egg food that can be made, especially if you can buy your grains at home cheaper than to ship them in.

EGG-MORE is put up in 4-lb. packages at 35c; 25-lb. pails, \$2.00; 50-lb. sacks, \$3.75; and is for sale by many dealers. If yours doesn't keep it, or will not get it for you, we will deliver a pail or sack, freight prepaid by us.

Manufactured by the

West Coast Stock Food Co.

818 San Fernando St. (Through to Alameda) Los Angeles, Cal.



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Jubilee Incubator Co., Sunnyvale, Cal.

You Can't Escape

the moulting season, but you can assist nature by feeding

Excelsior Moulting Food

Your hens will moult sometime next fall or winter if fed their usual rations but it is money in your pocket to have it over before then. The difference between success and failure in the poultry business is in producing eggs when the price is high. Get your hens to laying early and be sure of a good supply when the price is 50 cents per dozen.

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Feed Excelsior Moulting Food—Control the Molt



THE WHITE WYANDOTTES THAT WIN AND LAY

\$15.00 and Up Per Dozen

Lakenvelders, per pair, \$8.00; trio, \$10.00.

Mammoth Bronze Turkeys Reasonable.

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Barred and White

Prizes Won at Alameda County Poultry Association Show, Oakland, 1907—22 Regular Prizes and 8 Silver Cups. Can furnish best birds and eggs at reasonable prices. No incubators lots furnished

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This machine will cut clover, alfalfa, straw, vegetable tops and similar material, green or dry, into 1/4 inch lengths, which makes it especially adapted to cutting feed for poultry. It is all iron and steel, consequently very durable. Length over all, 24 inches. Size of feed box, 18 inches long by 10 inches wide at rear end, by 8 inches at throat. Feed rollers are full width of cutting surface. Has 8-inch, 4-bladed, solid center, spiral knife, with adjustable cutter-bar, like a lawn mower. Capacity is a bushel of cut clover in 10 minutes or less. It is intended to be mounted on a bench or box to make it right height for operator.

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ALTADENA, CAL.

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ORPINGTONS

Cockerels Pullets Trios
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BARRED ROCKS

EXCLUSIVELY

Send for Sixteen-Page 1906 Catalogue

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Baldwin's White Leghorns

Fine youngsters at reasonable rates. Good older stock cheap to make room. Full description of stock and price list mailed free on application.

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Cockerels for sale from my best hens. A few Light Brahma Hens and Roosters for sale. Eggs from L. R. Ducks and Blue Andalusians at \$1.00 per setting, \$5.00 per hundred.

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WHITE WYANDOTTES EXCLUSIVELY

Good, White, Typical Birds. Stock and Eggs For Sale.
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MY EXHIBIT OF
WHITE, BUFF
AND PARTRIDGE Wyandottes

Won 26 Ribbons and Special Prizes
at the Poultry Breeders' Show, 1907
R. D. Box 267 L. E. BERKEY, Fullerton, Cal.

carbulated vaseline. Purchase some reliable roup medicine and follow directions. It might be well to use germozone freely in drinking water, also use for bathing head and eyes.

Intestinal Worms.

Can you tell me what is the trouble with one of my spring pullets? For some days it has been ailing; its very, very thin, but has an excellent appetite. The droppings are yellow, sometimes soft, but generally firm. I have taken this chicken out of the yard and given it whatever my neighbors advised, with no apparent change. This is my first venture at raising chickens, so I know nothing about them.—Mrs. C. G.

From the description we would say that your birds have either what is known as "going hyht" which is really consumption, for which there is no cure, and is considered by some as contagious; we would remove same from flock. Or they might have intestinal worms. Treatment: give your fowls one teaspoonful of turpentine in equal amount of sweet oil, followed with a good physic. If the trouble is worms this will relieve same.

THE CORNISH INDIAN GAME.

In response to the "Cultivator's" request for an article on the "Cornish Indian Game," I wish to assure you that it is a pleasure to write or speak a good word for such an excellent fowl. I prefer to have others, of more experience with this breed, do the writing, but Indian breeders do not seem to be the kind to boom nor to make known the merits of their favorite fowl.

The Indian Game is an all-English breed, as they originated in Cornwall, England, about the year 1840, or soon after. They were made by crossing the "Aseel" and "English Game," and the progeny of this cross with the Malay, since then they have been greatly improved and new blood may have been used. The name is a mistake and a better name would be the Cornish Fowls. The "Indian Game Club" of America has changed the name to "Cornish Indians," and most of the American breeders are now using that name. The first record I find of their having been exhibited was at Crystal Palace, London, England, in 1858 and 1859, and for twenty years they were practically unknown outside of a few counties in England. In 1887 the breed was introduced into the United States. Dr. Clark of Indiana, claimed to have the first "Indians" in America. The writer was the first to bring them to the Pacific Coast, also the first to breed, exhibit and to advertise them on the Coast. At that time I had the "White Rocks," "White Wyandottes," "Black Minorcas," "White Leghorns," "Black Spanish" and "Pekin ducks" and later had other breeds, but have settled down to the "Indian Games" exclusively.

The "Pacific Indian Game Club" was organized about 1893 and did good work for a time. At one Northern show the members exhibited about fifty choice specimens.

But the readers of the Cultivator are probably more interested in the practical qualities of the breed than from a fancier's point of view, consequently I will tell what I know from the utility standpoint:

First—They are the best table fowl I know of.

Second—Good average layers.

Third—Their eggs are large, rich

and better flavored than others.

Fourth—Both male and female are beautiful birds, if well bred; double-penciled stock.

Fifth—They are good sitters and mothers.

Sixth—They are hard feathered, have very little offal and are easily picked and dressed.

Seventh—They are not a fighting breed—but as peaceable as any other.

They have always been very popular as a table fowl in England, where they rank above all other breeds for crossing. All first premiums at Crystal Palace, London, for table poultry were awarded this year to Indian Games and Dorking cross first, and second to Indian Games and Orpington cross. It seems necessary to have the Indian Game or Indian Game cross to suit the English palate.

The average American is in such a hurry, he seems to care but little if he eats chicken, or simply an apology for a chicken. Any old thing seems good enough, but the time will come when the "Indians" will "come into their own." To those who intend to keep a few fowls for their own use, I would suggest that they keep the best fowl for rich eggs and table use—the Cornish Indian Game.—John D. Mercer, Los Angeles.

HOW TO FEED GREEN CUT BONE.

While green cut bone is one of the best and cheapest feeds for poultry there is nothing that can cause more harm if fed improperly.

Being so cheap and the fowls so greedy for it, sometimes persuades the poultryman, who is inexperienced in its use, to grant them their fill—and usually not until the health of the entire flock is undermined

does he notice the harm that is being done.

A hen when unable to secure other animal food will consume half an ounce of cut bone a day, and keep in good health, but more than this is pretty certain to cause ill effects.

My best results in its use have been secured by feeding a mash in the afternoon, in which I place, when no other animal food is accessible, three pounds of bone for every hundred hens—about half an ounce per hen. Though my only experience has been with the Single Comb White Leghorn, I think this rule will apply to most any breed.

It is usually advised to feed an ounce every other day, but this certainly is not as good feeding as half an ounce every day, for a hen on the range, during the spring and summer months when the egg production is at its maximum, secures insect food every day; and to feed cut bone to excess one day and withhold it entirely the next, is not successfully imitating nature's way.—Poultry Success.

All the good things of this world are no further good to us than as they are of use; and whatever we may heap up to give to others, we enjoy only as much as we can use, and no more.

—De Foe

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Baby Chick, \$2.25 dozen. Eggs half price, \$1 per 15, \$5 per 100. January pullets laying when 11 weeks old. CANNON POULTRY COMPANY 2851 Morgan Avenue, Los Angeles, Cal.

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And Golden Sebright Bantams, prize winners Stock and Eggs in season M. E. Dillingham, Box 67 San Gabriel, Cal.

STATE FAIR, 1907

Greatest Ever. Sacramento, September 2nd to 14th

Poultry Show September 9 to 14

All birds must reach Sacramento by September 8th. The management desires to make this the greatest Poultry Show ever held on the Coast. They have increased the

Prizes for Birds and added liberal Awards for Collie Dogs

They are erecting a new Poultry Exhibition Building, and making new up-to-date exhibition coops, and have increased the number of judges to four, viz: Henry Berrar of San Jose; E. F. Mitchell of Sacramento; R. T. Venn of Fresno and Frank H. Thomas of Los Angeles. For premium list and entry blanks address

J. A. FILCHER, Secretary

IF YOU THINK

you can mix your own Egg Food, we will help you, by selling you raw materials of the purest and best grade at lowest cost.

We do not think you can mix Egg Food as cheaply or as well as we can with our special machinery. Anyway try a sack of A. C. W. Egg Food and compare it with your own mix for cheapness. We think we can help you save money. It is the age of progression.

A. C. W. Egg Food in 100-lb. sealed sacks, properly fed will give startling results in the Egg Crop.

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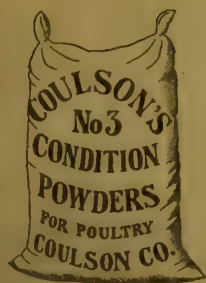
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Black Minorcas Exclusively

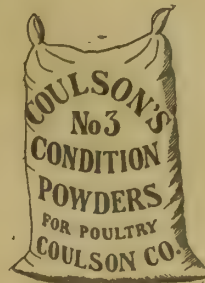
Our Minorcas excel in size and egg production. All prizes at the late Los Angeles Show were awarded our birds. Stock and eggs for sale. Send for our new illustrated catalogue.

Perham & Wheeler, R. F. D. No. 123, Lordsburg, Cal.





Coulson's No. 3



Condition Powder For Poultry

If you are not already using Coulson's No. 3 Condition Powder, we would suggest that now is the time of year when your hens most need a tonic, to get them into condition after a heavy laying season.

If you neglect them now, and they go through the molt in poor condition, it is likely to take them a long time to start laying again, with consequent loss to your pocket.

We Claim Coulson's No. 3 Condition Powder

will put the flock in good, vigorous condition, not only enabling them to withstand any possible infection or disease, but enabling them to go through the molt rapidly, and to commence laying again before the cold weather sets in.

We practice what we preach, by giving our own hens a little of Coulson's No. 3 Condition Powder three times a week, and although they are now beginning to molt heavily, their combs are as bright and red as at the beginning of the season.

You will find that it does the same with yours if you give it a fair trial. It will not only do this, but will enable the hens to digest a much larger proportion of their food and thus save your feed bill considerably.

Therefore, if you wish to make money this fall and winter, inquire right now at your dealers for Coulson's No. 3 Condition Powder, and see that he keeps a stock so that you have it when you want it.

Where the local dealer does not keep it, we will make you a **SPECIAL OFFER** to deliver it freight prepaid to any Railroad Station in California, at the following Prices:

10-lb. Package, \$1.50; 25-lb. Package, \$3.25; 50-lb. Package, \$6.00; 100-lb. Package, \$11.00

Prices prepaid to R. R. Stations in Oregon, Washington or Nevada will be: \$1.75, \$3.50, \$6.40, \$11.50 respectively.

GET SOME NOW and insure yourself lots of eggs when prices are high.

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Don't Push

The horse can draw the load without help, if you reduce friction to almost nothing by applying

Mica Axle Grease

to the wheels. No other lubricant ever made wears so long and saves so much horse power. Next time try MICA AXLE GREASE. Standard Oil Co. Incorporated



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is high priced? No—it is cheap. Malthoid lasts longer than any other ready roofing, therefore costs less.

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Los Angeles Office
313 North Los Angeles Street

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

A Tenderfoot's Questions.

Coming to this State from the East—where the conditions are so different—will you please give me a little information through the columns of your paper.

First. What is the best mode of training—or form of trellis—for grape vines, berry bushes, etc.; where we have hard winds,—Monterey Co.
Second. What is the best use that can be made of hen manure and wood ashes on home garden, together or separately?

Third. My sweet corn is being destroyed by a light colored, creaseback worm. What can be done to control?

Fourth. I have some fine cabbage, quite solid. In the morning I will find them split open and the leaves cut away from the heart at its base. Is this a disease, or worm, or from rapid growth?

Fifth. Can Bordeaux mixture be bought in dried form ready to add water—if so from whom?—Easterner.

Your first question we will leave unanswered and ask any subscriber with experience to send in any hints his experience may suggest. As a hint, we may say however, that heavy posts (three by four redwoods) say sixteen feet apart in berry row with wires stretched between, works nicely. For grapes, in field culture, for such varieties as are long pruned, a heavy stake two by two with two or three cross arms is often used.

Hen manure can be taken directly to orchard and worked sparingly in soil about trees. Or mixed with equal parts of loam or leaf mold, weeds or straw and composted, in which case gypsum or even road dust

may be used to absorb any escaping ammonia. Ashes are excellent in springtime to scatter about all plants which the cut worms will attack. It then serves the double purpose of fertilizer and a protection from insects. A cut worm sometimes gets hungry enough to crawl through a ring of ashes about a plant, but not often. If you do not care to save to use in this way, ashes may be worked in about rose bushes or other plants at any time and do you excellent service as fertilizer, also in keeping some grubs and ground worms from doing damage. We would not mix manure and ashes.

We assume you refer to the worm which eats its way down into the tips of the ear of corn. The worm is *Heliothis armigera*, and infests cotton as well as corn. In fact, cotton growers protect their crops by planting rows of corn in the field of cotton to lessen the attack on the cotton. This gives you a hint of the only practical remedy. That is, plant a couple of weeks before your regular sweet corn crop is planted, a few rows of field corn to lessen the attacks on your regular crop.

Your split cabbage may possibly be from irregular irrigation or more probably from the variety.

Bordeaux may be had in a condensed liquid form. Simply add cold water and spray. Seed houses advertising in *Cultivator* will supply you.

Lame Colt.

I have a fine young horse that got cut about six weeks ago on a wire. I bathed the wound and bandaged the leg in arnica. The wound has healed but the horse is lame. Please prescribe a treatment.—S.

If there is no swelling, and you do not state there is, and there is no appearance of inflammation, as of proud flesh, bathe the leg for twenty minutes morning and evening with water as hot as you can bear your hand in; wipe dry, then apply a liniment, one part of oil of ariganum and one part aqua ammonia. This will blister after a few applications; cease the use of the liniment till the wound heals, and bathe with the hot water as above directed. We hint in time the soreness will cease. If this remedy does not cure the leg apply to Dr. Oliver the veterinarian on the *Cultivator*.

Constipation.

What is the best remedy for constipation in a horse, asks a correspondent from San Diego county.

Raw linseed oil is the best remedy we know of for constipation in a horse, as it acts quickly and is simpler than almost any other remedy we know of. Half pint to a dose repeated in four hours is ample. By the way, this is an excellent remedy for constipation in cattle as well as horses. We have used it with excellent results.

Pope Leo.

In answer to a query from a Beaumont correspondent, a subscriber at Gaviota writes:

"In your issue of July 25, I note query as to Pope Leo, a stallion. As the horse is owned and at stud near

here, I write for the information the subscriber, that "Pope Leo," thoroughbred, by St. Leonidas, owned by L. P. Talladay, of Olivas."

We thank our Gaviota subscriber for the information.

Durhams—Shorthorns.

Will you kindly tell me the difference between the cows that are commonly called "Durhams" and "Shorthorns?" W. B., Compton.

This question carries us back to the early years of 1800. Much of the history of the early breeders is a matter of dispute, but the following seem to be the oftentimes accepted, find in the latter part of 1700, early in the 1800's in the North east of England, breeds or strains of cattle known as the Durham, Teeswater, the Yorkshire and Holderness. Then, later, after the skill of the breeders had crossed immense breeds of the continent given them the abundant grass of the English meadows the Shorthorn appears. The foundation is said to be Durham largely. Before the of the Shorthorn, Robert Bakewell had developed the Longhorns of the same source. The Collings, Jert and Charles, were the leading breeders among the Shorthorns. It came Bates, Booth and Cruickshank. All of these names are familiar to owners of Shorthorn cattle.

The greatest calamity that ever befell the industry of pedigreed stock came with the ambition and booming of Shorthorn cattle by their breeders. The craze equaled the Holland Tulip, the South Sea bubble or Amalgam Copper bubble, culminated in the at New York Mills of a herd of cattle, so closely in-bred that they were worthless, for fabulous prices. The cattle sold, 109 head, for the sum of \$380,000. One cow sold for \$40,000 and another for \$40,600, the highest price a cow has ever brought. The \$35,000 cow when I was a girl. The regular Shorthorn breeders did not care for milk; it was for beef. Naturally, good milk cows rapidly the quality. Bates stood for the holding of the quality, or the dual purpose idea. Cows that made a record at the Lumbian exhibition, were of the King strain.

The early Durham were fine producers; those brought over by Penn were red and roan, while cattle brought or sent to the Pennsylvania Fathers were of the same type. John Alden bull, known in poetry of the despised white color. The descendants of these cattle are the so-called native cows of Pennsylvania. These red and brindled are good producers. When I was a child I remember that my Uncle, in lower Lancaster county, had a herd of these, bred on the farm my uncle, from cattle placed there by his grandfather. In 1874, ten of the cows were making a hundred pounds of butter a week, after the milk of four calves and all the milk cream used in a family of nine had been taken out. The milk was stored in a cellar and hand skinned and the buttermilk was a rich and delicious drink. These cows received only the grass of the meadows and the running brooks.

We children fed the tiny calves at least the older lad did so while looked on, so I am positive as to the number. There is a record, made in 1824, of a Pennsylvania cow of the ham strain, that produced 20 pounds of butter on grass alone.

7%
Guaranteed

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Is in land. We offer the famously rich cane sugar lands of Mexico—State of Vera Cruz, the finest in the world—at a cash price that is exceptionally low, and with the deed we enter a contract to plant, cultivate and market the sugar crop, paying you the profit. No other plan as fair and sure as ours.

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We Do All the Work

Of every nature and disburse the dividends to you as land-owning profit sharers when you become a buyer. We want you to investigate.

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Show Me the Man

That likes to know that his wife chopped the wood that cooked his supper because he forgot it, or that she or some one must clean the lamps. She is the best wife you will ever have. Now have the best

Acetylene Gas Machine

and make "you all" happy. We have it and guarantee it. You need it. Write right now.

20th Century Light Co.

609 E. Seventh St., Los Angeles, Cal.

When writing advertisers, mention *Cultivator*.



The American Shorthorn Breeders' Association was among the earliest, being established in 1842, and now on its 45 volume of herd books. The only breed of cattle originating in the United States that has a herd book is the Polled Durham. These have been bred from the milk-strains of the Longhorns. The type of horns or polled has become a standard type. While they have a herd book, yet, the cattle are recorded also as Shorthorns. An animal is eligible for the Polled herd book on two conditions. Both sexes, if they are of the offspring of registered Shorthorn parents, the female that can show her parents to have given her 98½ per cent. of registered Shorthorn blood.

Speaking of Longhorns the idea must not be taken wrongly to mean that of horns like the Texas steers. Longhorns have a horn that is elegant, hanging down parallel to the faces, sometimes they curl up at the ends and turn into the cow's neck and have to be shortened. I had a cow showing a horn so close to the skull that it pressed in. The horns were as though they had been soft bent down at the very butts. A beautiful and typical Longhorn was recently shown in an illustration in the Breeders' Gazette of a bull that won at the last royal show first premium. M. E. S.

Ship Dogs.

I am anxious to get into communication with one or two persons in California who have for sale Old English sheep dogs and grey African dogs. C. H. W. Lewis, Talmage, Colocino county, Cal.

Hole In Teat.

Will you please tell me how we can stop a hole on a cow's teat? The hole is on the back side of the right back teat, about half way up.—Mrs. E. E. M.

This case cannot be operated on while cow is milking. When dry cut down on opening and clip a little of the duct out. Then bring the edges together with silk stitches and wrap teat up until healed. Don't cut into the main duct in center of teat, only the branch.—Dr. W. J. Oliver.

Sage.

Will you please give me any information that you can, in regard to sage culture here. Which is preferable, spring or fall, to set plants? Is there any home market for sage, in any quantities?—F. M. W., Rialto.

We do not know of any sage grown here commercially. In Illinois and other Eastern States it is somewhat of a feature agriculturally and assume it can be grown cheaper and on cheaper land than in California. It may be planted at any time during the wet season. Would plant cautiously till home market is developed.

Pruning Apricot.

We have a few apricot trees three years old. When and how shall I prune them? We have one apricot tree, which is six years old, and has never borne any fruit. Will you please tell me through your Cultivator what is the matter with it? Mrs. L. M., Petaluma.

Cut your three-year-old apricot trees back to half of this year's growth. This is to make them stocky. If there is much heavy brush, prune all the large side branches off close and leave most of the fine growth. This will give the trees a chance to make good, strong laterals that will hold a heavy load.

Your six-year-old tree must be a poor variety. It is time it was doing business. J. W. M.

Mr. Mills does not say when to prune back as he suggests above, but probably he means the heavy cutting for later in season when trees are dormant, say December and January. We have seen trees like your six-year-olds pruned early in July very heavily give good crops the next year.

Blackleg.

Please give remedy and treatment for blackleg in cattle. It has appeared in this section and is taking off young stock. What is the best preventative and how used? H. C. J., San Luis Obispo.

The treatment is prevention by vaccination. We are constantly sending calves to infected districts. We treat them for the purchasers and have not had them complain of losing any of the animals from blackleg. The virus and needle for using it, with full directions, are sent out by the Cutter Laboratory at Berkeley. While I do not usually give names of firms, this firm has been conscientious in their work and has given reliable virus to the stockmen. A few years ago the market was full of virus that caused many losses. One poor man south of here is said to have lost eight head of cows by an improperly prepared virus.—M. E. S.

Drying Off.

I have a Jersey cow five years old that will be fresh in about a month; has been giving about three quarts of milk until last week. We noticed a clot in it and thought we had better dry her off, so began milking only once a day. The clots have increased rapidly. Is it a natural proceeding? Should we have dried her up before? She seems perfectly well. An early answer will greatly oblige. A. L. Hurtt.

This cow is trying to go dry. Give her a good physic of one pound of Epsom or Glauber salts and a tablespoonful of ginger. Give it with plenty of water to reduce any inflammation. Only milk once a day. It is probably too late to stop milking entirely, but if the milk flow ceases entirely it will be all right. Feed her on light food, grass, green vegetables, leaving off all grain, reduce the hay to a minimum. Before she calves repeat the salts so that all the secretions will be loose. M. E. S.

Turnips for Hogs.

Will you please answer in the Cultivator if turnips are a good feed for hogs? If so, when should they be planted? J. E. H., Santa Fe Springs.

Turnips are little grown for feeding as they are less valuable than other crops that can be produced with less expense. The average turnip contains about ninety per cent water, 1.3 of protein and nearly 5 per cent. of nitrogen free extract. As long as alfalfa grows the pigs in California will "live in clover." As to the time of sowing turnips, not knowing the conditions of moisture with you, I could not advise, but the nearest market gardener will tell you all about the proper culture for the region. M. E. S.

Lady Bugs—Cucumber Beetles.

What will keep lady bugs off of cucumber vines and beans? Also what is good for tomato blight on the vines? H. S. S., Elmira.

Lady bugs are almost invariably insect eaters and are the friends of fruit grower and gardener, so don't discourage them. If, however, you are bothered with cucumber beetle, or diabrotica, with a greenish yellow form with two black stripes on wing cover, pick them off and kill or spray your vines with Paris green or some arsenate mixture, though great care must be observed if the cucumbers are large enough for use. In that case hellebore is your only safe remedy. Use Bordeaux for blight.

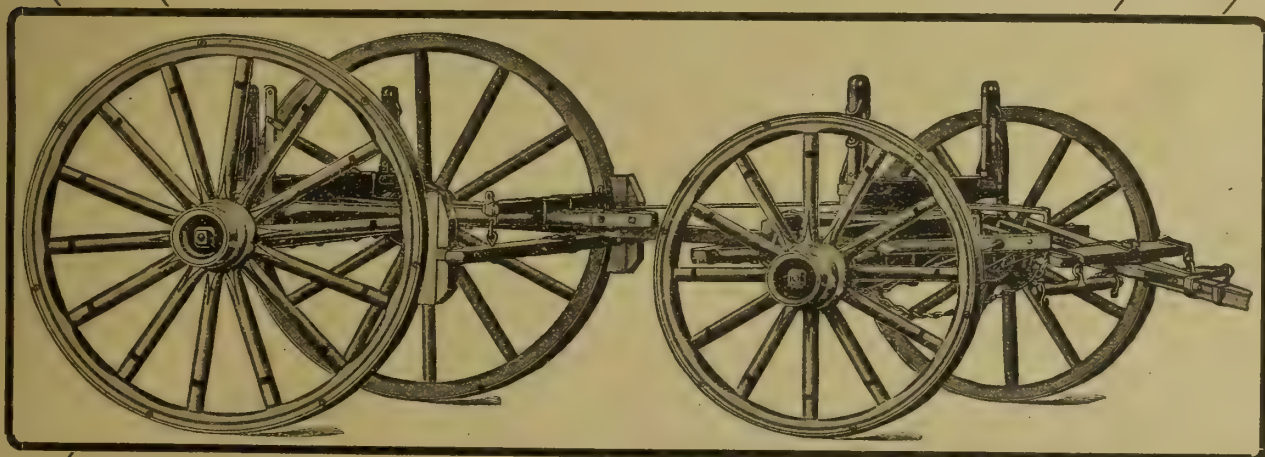
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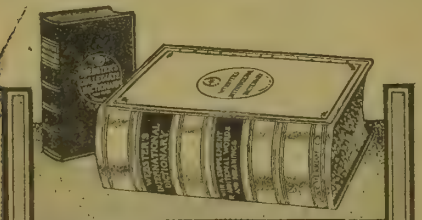
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Household Department

THERE IS NO UNBELIEF.

There is no unbelief;
Whoever plants a seed beneath the sod
And waits to see it push away the clod,
He trusts in God.

Whoever sees 'neath winter's field of snow,
The silent harvests of the future grow,
God's power must know.

Whoever lies down on his couch to sleep,
Content to lock each sense in slumber deep,
Knows God will keep.

Whoever says "Tomorrow," "The unknown,"
"The future," trusts the power alone
He dares disown.

The heart that looks on when eyelids close
And dares to live when life has only woes,
God's comfort knows.

There is no unbelief;
And day by day, and night unconsciously,
The heart lives by that faith the lips deny,
God knoweth why.
—Edward Bulwer Lytton.

HOW THEY CAME TOGETHER.

WHAT do you charge a dozen for this style of photograph?" asked Lionel Rushmore.

"Five dollars. Here is what we consider a sample of our best work. I intend to put one of them in the show-case outside." And, opening a box, he held out a photograph to Lionel, disclosing the smiling face of a beautiful girl of some twenty summers.

"A beautiful picture!" he said at last, laying it down almost reverently. "You generally print extra copies as specimens, do you not?"

"I would like a copy to show some lady friends," said Lionel, assisted by a sudden inspiration. "I think it might bring you several customers. Will you sell me one? I don't mind the price."

"We have occasionally done so," said the proprietor, hesitating. "I don't know that there is any objection. You may have one for a dollar."

"I have found my ideal in the winning countenance that smiled up at me from that bit of cardboard, and if the original is anywhere in these United States I'll find her and win her, if possible."

At the appointed time Lionel called for his own pictures, and after telling the proprietor that he might expect a number of new customers in a few days, thrust the envelope containing his photographs carelessly into the breast pocket of his coat. Reaching the foot of the stairs, he stopped a few minutes to pull out his handkerchief, and by a careless jerk pulled out the envelope also, which split, sending the cards in all directions.

"Hello! here's a pretty piece of absent-mindedness!" Lionel exclaimed, regarding the duplicates of himself that met his eye; then he gathered them hastily up, failing, however, to notice one that had slid behind an easel supporting a large photograph in the vestibule, and putting them in to another pocket, walked briskly away.

Had he not gotten out of sight so quickly, he might have seen the graceful, girlish figure that turned

in at the photographer's door a moment later.

"My pictures are completed, I suppose," she asked, pausing almost at the very spot where Lionel had so lately stood.

"Yes, ma'am; we have had them a week," and the attendant placed upon the top of the case a dozen counterparts of the picture even then nestling closely against Lionel's heart "Do you like them?"

"Very much." After a brief but critical examination, the young lady took her property and departed. As she reached the foot of the stairs her dress caught on a nail, and in bending down to release it she spied the photograph under the easel. Feminine curiosity prompted her to pick it up and inspect it.

Presently, with a deprecating laugh and flush, she slipped the photograph into her pocket.

"I wonder who the original is. I should like to know him. That is precisely the face I would wish my husband to have! I will keep the picture as a mascot. Perhaps it will bring us together. How I do hope he is not already married!"

But Cupid, dallying in a reprehensible way, permitted several months to pass by without result, until on a certain afternoon Lionel Rushmore took his seat in a train that was to take him temporarily out of the city. He was gazing out of the window when a sweet voice on the opposite side of the aisle attracted his ear, and as he gazed over his heart nearly stopped beating. The original of the photograph he cherished was sitting there, her bright face upraised to that of the gentleman who was arranging her wrap and bag.

"Oh, no, papa; I shall not be afraid to travel alone. It will only be dusk when we reach Stormfield, and Uncle Alfred will be waiting for me with the carryall."

"Very well, dear; goodbye." The gentleman left the car and the train started. Mile after mile they sped on until it grew dark; some of the passengers were dozing, others preparing to leave at the next station, when there sounded a crash, the splitting of timbers, the shriek of escaping steam, the scream of passengers, and—chaos.

Among the first to clear himself from the wreck, happily unhurt, was Lionel Rushmore. Assistants were hurrying to the scene, while the night air rang with the cries of the wounded and one of the forward cars was on fire. As soon as he could locate the car he had occupied, Lionel got to work with the strength and energy of a giant to remove the debris that was piled around it. Presently a voice sounded near him:

"What are you trying to do there, stranger?"

"There is a young lady right under this part of the wreck!" exclaimed Lionel, excitedly. "I recognize her garment down there on the seat!" He caught the end of a stubborn beam once more in his bleeding hands, when the man interposed, setting him quietly but decidedly aside.

Half fainting, Lionel sank upon a pile of debris, while the man set to work with skill and dexterity. Presently he uttered an exclamation of surprise, then called to Lionel:

"Step here, stranger; you never

saw anything prettier in all your life!"

Staggering forward, Lionel looked down into the wreck. The seat opposite Evelyn faced it and was empty. The shock had thrown her on her knees before it, and a large beam had fallen across the backs of the two seats, completely shielding her from harm.

"Saved! saved! thank heaven," Lionel exclaimed. The words penetrated her stupor. With a low, gasping sob she looked up, and the two originals gazed into each other's faces. The shock at beholding the man who had grown so dear to her before her in the flesh, was too great for the moment; and with another cry her head sank down again to the seat.

"There now, she ain't hurt a mite," said the man, answering Lionel's look of horror. "She's borne up like a heroine, and will feel all the better when she comes to again. Stead now, and I'll climb down and haul her up to you. Heaven must have felt especially tender to her to save her by such a miracle!"

Just then a carriage driven at furious pace pulled up beside them, and a man jumped to the ground.

"Is there a lady named Evelyn Sheldon among these passengers?" he asked in an agitated voice.

"Yes, uncle! alive and well! thank heaven!" the girl exclaimed, darting forward into his arms. "Saved through the efforts of the noble friends!" But the trainman was gone, and Lionel alone was there to receive the praise showered upon him.

"Accept my warmest gratitude and blessing, sir! Now come into the carriage with us, and let me take you home for the night. Indeed, I will listen to nothing else!" he persisted, as Lionel attempted to demur, murmured the word "hotel." "Do you think we would consent to part with you until your wounds are dressed?" He pointed to Lionel's bruised and bleeding hands. "You shall go with us and have the best of nursing the most devoted care, as your well-earned due."

It was a day or two before his hands were well, and before he had taken Evelyn's hands in his, to her of his love and asked her to be his wife.

"If I seem presumptuous for a short acquaintance, let this talisman which I have cherished for months plead for me," he added, as, drawing out the photograph, he placed it in her hand.

"Where did you get this?" Evelyn asked, blushing rosy red. And when he had told his story, she blushed rosier still.

"I, too, have a confession to make!" she whispered. How she told it or what immediately followed we need not relate; but when Lionel said goodbye for the last time that day, it was with his arm around her waist and his lips close to hers.

The interview with Mr. Sheldon which transpired on his return to the city was all that could be desired; and the pictures which brought those two people together so long before they actually met, smile down on them either side of the framed marriage certificate that adorns the private boudoir of Evelyn Rushmore's happy home.—Farrers' Tribune.

Lives of great men all remind us. We can make our lives sublime.

Longfellow.

RECIPES.

may live without poetry, music and art, may live without conscience, we may live without heart; may live without friends, and live without books, civilized men cannot live without cooks.

Edward Bulwer Lytton.

Cucumber Sandwiches.

Take cucumbers thin, place them in water, add a little salt to the water, and soak for two hours (changing the water twice). Make thick mayonnaise dressing. Cut the bread very thin, pare off crust, spread the dressing lightly on the bread and put cucumbers between the slices.

Almond Sandwiches.

Put salted almonds fine until a thick paste with mayonnaise spread on thin slices of bread, cut off crust.

Shrimp Sandwiches.

Take ready four triangular pieces

of toasted bread, spread with mayonnaise, cover two of these with lettuce, put a thin layer of chopped cold chicken (white meat) upon the lettuce, over this arrange slices of boiled breakfast bacon, then lettuce and cover this with the other triangles of toast spread with mayonnaise. Trim neatly, arrange on a plate and garnish with lettuce leaves. (These are more in vogue for lunches.)

Pickle Sandwiches.

Spread slices of bread lightly with cream cheese, sprinkle over pickles chopped fine, over these place three or four slices of olives stuffed with red peppers (called pimolas).

Shrimp Sandwiches.

Take half a pint of prepared shrimps, make them into a paste with two ounces of butter, a little salt and a dash of cayenne. Moisten with a little tarragon vinegar; spread the paste upon both slices of bread, press them together; cut in two and serve.

The Personal Neatness Club

This department has been criticised for the name or caption given to the department. That is, "Personal Neatness" is deemed too restrictive. We wish to send in various little things, some not pertaining strictly to personal neatness. In fact, some of the week's are of a different nature. Very well, some one suggest a better name. Any name under which we can gather together and chat of the things which makes us more attractive to our friends, or our homes more homelike, or our work more easily done.

We surely can broaden out so as to include all. So send in your suggestions. Or if you haven't any, send in ask something. Somebody else will furnish an answer. Our query man had an inquiry recently which we could not answer, but it went out to our big family of readers and just one out of the twelve readers gave exactly the information wanted and much needed. It will be nice, however, while you are waiting for information to send in a note of some kind. If you want a comment come up with your suggestions last." If you want the goods for market, bring the coin of this department for exchange.

Anytime, if "Personal Neatness" doesn't suit send a better name.

Individual Wash Cloths.

We were always having scraps of who had such a dirty face as to give such an indication of having been used, to the Turkish wash cloth in the bath room bowl. It usually ended in the small boy being scolded with getting off some of the summer tan" and leaving a very "washed" appearance to the wash cloth. So mother came to the rescue one day, above the bowl appeared two hooks, each with a nice clean Turkish towel—about a square. The first was Daddy's, the son's, then daughter's and last (as usual) mother's.

The family was led out and exhortation given very sedately as to meaning, the rights and privileges with those cloths. Every one was to use his own as he pleased, no other; then wring and return to the book.

It is immaterial which showed that "washed" appearance the quickest,

but that is appearing less and less, hence a good habit is forming.

Now, I want to know: Our water is "hard." After each bath the porcelain tub is gummy and sticky. Lye and scrubbing takes it off, but it is very inconvenient to use. Can any one give me a hint?—Mrs. M. B. C., Pomona.

Warm Weather Suggestions.

Too much stress cannot be laid on cleanliness in the care of the dairy cloths and dish cloths, as a greasy and grimy cloth will make a fine breeding place for disease germs, and it pays to have plenty of cloths so some can be sunning and airing while others are in use.

A good way to get rid of the small red ants is to take some small pieces of coarse sponge and sprinkle sugar in the cavities and place them where the ants run. Once every day, pick up the bits of sponge and drop them in hot water, then dry and fill with sugar and use again, and while this is a very simple it is a very effective remedy.

For excessive perspiration in summer, try bathing with a lotion comprised of one ounce of hydrate of chloral in one pint of soft water and apply with a piece of soft linen, allowing the water to dry on the skin.

An excellent remedy for hay fever—if any of our California readers do not know what is meant by "hay fever" our Kentucky subscriber will enlighten us—and nose colds or any catarrhal affection, is made by dissolving one teaspoonful of borax in a glass of warm water and snuff it into the nose allowing part of it to escape through the mouth. Gargle the throat with the borax water and for a bad case, the spray should be used at intervals of every hour or two.

Weak borax water is also excellent to bathe children in who break out all over with heat, as it stops the itching and removes the feverish condition.

To relieve pain caused by the sting of a wasp, bathe the part with turpentine, and use yellow soap for mosquito bites, and a paste of soda for bee stings.

A good remedy for bowel trouble is to steep the leaves of rag weed and when cool drink freely of the water.

Crushed beets make an excellent healing poultice for cuts and wounds.—H. H., Kentucky.



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The Produce Markets

Los Angeles

Markets

LOS ANGELES, Aug. 14.

Butter.
Butter has taken a five-cent slump during the week. It now stands at 60 with a good tone to the market and present quotations held steady. Arrivals of Eastern are heavy.

Creamery extra.....60
Creamery first.....60
Dairy.....55
Cooking.....47 1/2

Cheese.
Cal. Young America, per lb.....19
Hand.....20
California Anchor.....17
Cal 3-lb. hand.....20
Northern fresh.....16 1/2
Eastern.....18@19
Domestic Swiss.....23
Imported Swiss.....30 1/2

Eggs and Poultry.
A boosting of the egg market seems to be apparent. Quotations are marked up a cent higher than last week and tendency manifested to continue the boost. Another advance is promised by Saturday. The prices are those of the commission man to the retailer.

The prices given are those of the commission man to the retailer.
Eggs local candled....29
Eggs case count.....27

The following are average prices which dealers pay to producers for live weight.

Hens per lb.....13
Young roosters per lb.....14
Fryers.....15
Broilers per lb.....16
Old Roosters.....8
Turkeys.....17
Geese.....11
Ducks.....11
Squabs per doz.....1.50@1.75

Live Stock.
The following quotations are f. o. b., Los Angeles, on all stock.
Hogs, from 175 to 200 lbs.....7 1/2
Prime steers.....4 1/2@4 3/4
Heifers.....3 1/2@4
Calves, per lb.....4 1/2@5
Sheep, ewes, per head.....4.75@5.25
Lambs, per head.....4.00@4.50
Wethers.....5.50

Potatoes.
Potatoes are again showing an upward tendency. Burbanks have been advanced ten cents the past week and the outlook is for firm market if not a rise, though some predict a later decline.
Early Rose.....1.75@1.85
White.....1.90@2.00
Local Burbanks.....2.10
Sweet potatoes per lb.....4

Onions.
Onions still shading in price.
Silverskins per ctn.....2.50
Australians.....2.00@2.55
Yellow Danvers.....2.85@3.00
Garlic.....9

Vegetables.
The vegetable market shows a firmer tone than last week and most quotations are maintained.
Asparagus per case.....3.50
Artichokes.....65@80
Beets per doz.....20@30
Bell peppers green lb.....10
Beans wax.....5@7
Beans Limas.....6
Beans green.....2
Cabbage sack.....50@60
Celery per doz.....40
Chili peppers green.....10@13
Cucumbers per 20-lb box.....15@30
Corn per box.....35@50
Cauliflower.....1.25
Carrots per doz.....20@30
Egg plant per lb.....15
Green onions doz bunches.....15@30
Lettuce per crate.....50@75
Mushrooms per lb.....1.00
Pie Pumpkins.....1 1/2
Peas sugar per lb.....4
Okra, per lb.....20
Rhubarb per box.....50
Radishes per doz.....15@20
Spinach per doz.....10@20
Summer squash crate.....15
Turnips doz bunches.....35@40
Tomatoes per box.....25@35
Water Cress per hundred.....40

Citrus Fruits.
Valencias.....1.50@2.75
Seedlings.....1.25@1.50
Grapefruit Seedless.....2.00@2.50
Grapefruit Seedlings.....1.25@1.35
Lemons, fancy.....2.00
Lemons, choice.....1.25@1.50
Tangerines, halves.....1.50@1.75

Fresh Fruits.
The fruit market is holding its own at listed prices. Oranges are cleaned up on arrival at big figures. Few were offered yesterday. There is strong demand for lemons, with few on sale. Prices hold very firm. Peaches advanced a shade owing to increased demand and scant supply. Apples are scarce and selling at fancy figures.
Apples Red Astrachans box.....1.00@1.25
White Astrachans.....2.50
Pearlains.....1.75@2.00
Gravenstein.....1.50
Crab apples.....1.00
Blackberries.....6@8
Cantaloupes, crates.....1.00@2.00
Figs black per lb.....5@6
Figs white.....9
Grapes, per 4 bskt crate.....1.30@1.75
Huckleberries lb.....20
Logans.....7@8
Nectarines.....1.75@2.00
Pears.....2.25
Peaches per box.....75@1.00
Plums Sinonas.....1.15
Plums Tragedy.....1.25
Raspberries.....8@9
Strawberries.....4@6
Watermelons per lb......01

Dried Fruits.
Dried fruit market is indifferent because of there being so little fruit that there can be but little interest. One broker, formerly handling large quantities of fruit has closed shop and left for want of business.
Evap. apples fy per lb.....8 1/2@11
Apricots.....20@25
Peaches.....11@13
Pears.....13
Nectarines.....14
Prunes.....4@5 1/2

Beans, Dried
Limas per ctn.....5.30
Pink No. 1.....3.00
Lady Washington.....2.90
Small White.....3.20
Black Eyes.....5.50@6.00
Garvanzas.....5.75@6.00
Lentils.....12 1/2@15

Honey
The prices we give are those at which the jobber sells to the grocer in small lots. The producer should take from this one cent a pound commission and freight to Los Angeles, and there will remain the net returns to him.
Extracted white.....6@8
Light Amber.....5@6
Comb, water white, 1-lb. fms.....12@15
Light amber.....6@11@13

Nuts.
Almonds per lb.....19@25
Peanuts, Virginia.....9
Peanuts California.....6@7
Walnuts, No. 1 S. S.....14@15

Hay.
Barley No. 1.....13.50@15.00
Barley No. 2.....10.00@11.00
Alfalfa Northern per ton.....12.00
Alfalfa new local.....11.00@12.50
Plain oat No. 1 new.....12@13
Wheat No. 1.....12@14

Grain.
Purchasing prices f. o. b., Los Angeles are:
Wheat new per cwt.....1.70
Wheat, new, per cwt.....1.70@1.76
Wheat, Sonora.....1.52 1/2@1.57 1/2
Barley.....1.17 1/2@1.22 1/2
Corn Eastern sacked......55

Feed Stuff.
Selling price F. O. B. Los Angeles as follows:
Cracked corn.....1.65
Shorts.....1.45
Bran.....1.30
Egyptian corn.....1.65
Oil cake meal.....2.50
Rolled Barley.....1.40
Rolled barley per ton.....25.00
Feed meal.....1.70
Kaffir Corn.....1.65

Grease spots can be removed from wall paper by rubbing gently with soft bread crumbs. Pack the crumbs lightly in a small ball, and work with a rotary motion. If the stain is very obstinate, spread with a paste of potter's clay, water and ox-gall; dry and renew paste until the stain disappears. Wipe down the walls with a clean old pillow case tied over a broom.

In testing a piece of cloth to see if it is a cotton mixture, if you cut a small piece off and put a match to it, if it is all wool it will only singe, but if cotton is there it will flare up.

Another brush fire in the Bear Valley back of Redlands covered a thousand acres in a short time last week.

San Francisco Markets

SAN FRANCISCO, Aug. 13, 1907.

Butter.
Butter has advanced a cent and half during the week and the market steady. Receipts average daily about 60,000 pounds.

California extras per lb.....
California firsts.....23
California seconds.....22 1/2
California thirds.....22 1/4
Packing stock.....22 1/2

Cheese.
California Young American fy.....
California flats fy.....
Eastern fancy.....
Oregon fancy.....

Eggs and Poultry.
Eggs have taken a great advance the past seven days and now stand 35 as against last week's 29 cents.
Fresh ranch eggs.....
Eggs first per doz.....27
Eggs seconds per doz.....27
Eggs thirds.....27

Poultry market is dull with no sales.
Hens per doz.....4.50@5
Hens large.....5.00@5
Young roosters.....6.50@7
Old Roosters.....4.00@4
Fryers, per doz.....4.50@5
Broilers per doz.....4.00@4
Ducks, young.....4.00@5
Geese, per pair.....1.50@2
Turkeys, per lb.....1.10
Pigeons.....1.25@1.50

Live Stock.
Steers No. 1.....7 1/2
No. 1 cows and heifers.....6 1/2
Hogs 80 to 200 lbs.....6 1/2
Hogs 200 to 300 lbs.....6 1/2
Calves, per lb.....
Lambs, yearlings.....6@8
Wethers, No. 1.....
Ewes, No. 1.....

Potatoes
Sweet potatoes are a little cheaper than they were last week, the best grade bringing 3 1/2c per pound, while the other varieties of potatoes remain steady at the price last quoted.
River whites.....
Early Rose.....1.00@1.10
Sweet potatoes.....

Vegetables.
Vegetables are rather slow with larger quantity in sight. There is material change in the prices quoted.
Asparagus.....35
Cucumbers per box.....50
Corn per sack.....75@1
Chili peppers green box.....30
Bell peppers per box.....30
Egg plant.....10@12
Green peas per lb.....1 1/2@2
Squash per box.....35
Peppers Green Bell per box.....40
Rhubarb per box.....40
Tomatoes California.....75@1
String beans.....1 1/2@2
Wax beans.....60
Garlic.....2@3

Onions.
Onions new reds.....2.25@2.50
Onions Br Australia per ctn.....3.25@3.50
Onions new yellow.....2.50@2.75

Citrus Fruits.
Valencias.....2.00@4
Seedlings.....1.25@1.50
Grapefruit, seedless.....1.75@2
Limes.....4.50@5

Fresh Fruits.
Apples Red Astrachans......50@1
Apples Gravenstein.....1.00@1
Apples small stock......50@1
Crab Apples.....75@1
Blackberries per chest.....3.00@4
Figs one layer.....40
Figs 2 layers.....1.00@1
Grapes per crate.....70@7
Logans per chest.....8.00@10
Melons per crate.....40@50
Plums per box.....45@50
Peaches per box.....60@70
Bartlett's.....1.25@1.50
Raspberries per chest.....10.00@12
Strawberries per chest.....7.00@12
Watermelons per doz.....1.00@2.00

Dried Fruits.
Apples (evap.).....6 1/2@7 1/2
Apricots per lb new.....22 1/2@24
Figs white.....3 1/2@4
Prunes 4 sizes.....1.40@1.50
Peaches.....1.00@1.10
Pears.....6 1/2@7 1/2

Beans, Dried
Limas No. 1.....6.25@6.4
Pink.....2.60@2.7
Large white.....2.50@2.6
Small white.....2.90@3.0
Black Eyes.....4.85@5.0
Red Kidneys.....3.25@3.5
Bayo.....3.20@3.3

Hops.	
new, future delivery, per lb	9@11
old, fancy	9½@10
choice	7@9
common	5@6
Nuts.	
almonds, new	17½@18
almonds, California	5½@6½
almonds	12@16
Honey	
white comb	16@17
extracted	13@16
wax No. 1 per lb	5¼@7¼
	26@28
Hay.	
alfa local	11.00@13.50
Oat	14.50@16.00
Oat	10.00@14.00
at No. 1 new	18.00@21.00
Grain.	
No. 1	1.52¼@1.55
No. 1	1.27@1.30
small yellow	1.60@1.65
large yellow	1.50@1.55
white	1.45@1.50
red	1.50@1.75
Feed Stuff.	
corn	19.00@22.00
per bale	60@90
corn meal per ton	32@33
oat meal per ton	33@34.50
oat meal per ton	40.00@41.00
nut cake, per ton	25.00@26.00
oilings	27.00@30.00

Citrus Market

LOS ANGELES, Aug. 14, 1907.

There is no change and little interest in the citrus market. All believe the conditions on late fruits will remain practically unchanged until all are dispatched, so that but little concern is manifested. In the Eastern markets the ups and downs prevail according to weather, but on the whole a steady market prevails. Three or four hundred cars will clean up the remainder of Valencia's now in California and will gradually be forwarded during the next six or seven weeks. In words will be fully out of the market for the opening of the new year this is November first.

The sections report early ripening and an outlook for at least an average "About the same as this year" report of some.

Valencias continue to command a good price. Sixty-four cars have been forwarded during the past week.

NEW YORK, Aug. 12.	
VALENCIAS—	
Card o r Nat O Co	3.45
Card st Nat O Co	3.85
Mission fy Chapman's Fulln	5.70
Mission ch Chapman's Fulln	4.55
Men Eagle st Chapman's Fulln	4.45
Rafael	4.25
Pasqual	3.65
Ve Son st King Ft Co	3.65
Lake st King Ft Co	2.90
Shine Grove J F Bowen	3.45
Shine Grove J F Bowen	2.85
er fy Upland Dist	4.10
rmoyne o r E M Ross	4.40
lower fy Richardson Fulln	4.65
im ch Richardson Fulln	4.10
quet xfy California C U	4.25
ry xc Cal C U	3.50
Ranch xc S Marino Gr P Co	4.10
reador st S Mar Gr Pack Co	4.00
Seal xfy A C G Ft Ex	4.95
Shield xc A C G Ft Ex	3.75
in Crown st A C G Ft Ex	3.30
land xfy R H Ft Ex	4.85
rk st R H Ft Ex	4.30
Globe xfy Riv Ex Riverside	4.05
FEETS—	
hel xfy O Gr Cash A	2.85
Mark st O Gr Cash A	2.35
S. MICHAELS—	
Globe xc Riv Ft Ex	3.75

STON, Aug. 12.—The market is very and the weather is very hot. Four carloads sold today and five carloads on tracks.

VALENCIAS—

at Vista fy Hemet Dist..... 4.40

at Vista ch Hemet Dist..... 3.20

at xfy A C G Ex Glendora..... 5.00

Veterinary Instruments, Black Leg and Anthrax Cure, Milk Fever Outfits... See Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Pointer xc A C G Ex Glendora.... 3.90

PITTSBURG, Aug. 12.—The market is weak and weather very hot. Four carloads of oranges and one of lemons sold.

VALENCIAS—	
Aurora o r Edmund Peycke	4.55
Deal o r Edmund Peycke	3.80
Blue Flag xfy Spence Ft Co	4.15
Stag xfy A C G Ex Azusa	4.45
Pointer xc A C G Ex Azusa	3.35
Hunter st A C G Ex Azusa	3.40
Fiesta xc Riv Ex Pachappa	3.95
Pond Lily ch Riv Ex Pachappa	3.55
Scroll st Riv Ex Pachappa	2.75
LEMONS—	
Flower City fy S T Santa Barbara	2.40
Flower City ch S T Santa Barbara	2.00
Blondina st S T Santa Barbara	1.25

ST. LOUIS, Aug. 12.—The market is firm on good stock and the weather is hot and muggy. Three carloads sold and five carloads on tracks.

LEMONS—	
Whittier xc S T Ex Whittier	3.55
Pico st S T Ex Whittier	2.75
Picnic st S T Ex Whittier	2.35
Palm Tree xc A H Ex Arlington	3.90
Calaller st A H Ex Arlington	3.80
California Orange (V) Riv Ex Riv	2.60

CINCINNATI, Aug 12.—The market is declining and weather very hot. Three carloads sold and three on tracks.

LEMONS—	
Maduro fy Q C Ex Corona	2.00
Grove ch Q C Ex Corona	1.90
VALENCIAS—	
Volunteer xc S A Ex Pomona	3.85
Grayhound ch S A Ex Pomona	3.55
Telmo	3.65

Citrus Shipments.

Shipments of citrus fruits to date aggregate 26,529 cars, of which 3099 were lemons. Same date last year 24,761 of which 3285 were lemons.

PROFITABLE AGE FOR LAYING

The age to which a hen may be kept and still be profitable as an egg-producer is determined largely by the bird. I have owned hens that were not more than three or four years old that were by no means profitable egg-producers, while others were good layers at five or six years of age. I especially noticed a Brown Leghorn hen which laid eggs from early spring till late fall the summer she was five years old. She did not stop laying more than a week at a time from early spring until fall, and much of the time she laid every day. When considering the age to which a hen is apt to be kept, the cost of raising a hen up to the time she begins to lay should be considered. This cost is distributed over as many years as the hen is kept and it is evident that with a hen kept three years the first cost will be only one-third of the hen kept only one year. Hens cannot be expected to produce eggs a whole year without stopping, and they eat the year round, but a grown hen does not require the careful attention when not laying that a young chick does.—Turf, Farm and Home.

IT'S PENNY WISE.

Policy to set out a good tree, costing good money and then let the sun burn the bark or the rabbits gnaw it when for \$1.00 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Manufacturing Company, 1380 Willow Street, Los Angeles.

Veterinary Instruments, Black Leg and Anthrax Cure, Milk Fever Outfits... See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

High-Grade Farm Wagons



GOOD wagons are absolutely necessary on the farm.

Remember that paint may hide a multitude of deficiencies—a lot of poor materials, particularly poor wood stock—and that the well painted but cheap and poorly constructed wagon may not be a bargain at any price. Break-downs are expensive, repairs cause delay, and in the end the cheap wagon will prove a most expensive one. Iron of the best quality; wood stock of desired toughness, thoroughly seasoned, are required for the big loads, rough roads, ruts, slips and slides that try the farm wagon.

The iron and wood must be put together properly to give the greatest durability.

That's not all; this excellence of material and building must be combined with light running qualities to make the completely successful farm wagon.

All these requirements you will find in the International Harvester Company line of farm wagons.

The Weber for more than fifty years has been among the best and most favorably known of America's farm wagons.

The most carefully selected and seasoned materials with superior construction in every part make it suit every condition of wagon service.

The Columbus is a strong, well constructed and durable wagon, such as will well meet the needs of the great army of farm wagon buyers and users.

The Bettendorf is a new and valuable improvement in wagon construction, the front and rear gears being made entirely of pressed steel; therefore, the axles, bolsters and other gear parts are free from swelling, shrinking, rot, etc. Ideal for hot or dry climates.

They are the only steel constructed farm wagon gears on the market. These wagons are built to last. Almost any wagon can be guaranteed for a year, but the point that should always be considered is how many years is the wagon likely to do good service? Think it over. It makes little difference which of these wagons you buy. You will make sure of wagon value and wagon satisfaction in any event. You simply can't buy any thing better at any price.

Call on the local agent or write nearest general agency for illustrated pamphlet, describing the wagon you prefer.

Weber Columbus Bettendorf

Western General Agencies: Denver, Colo., Portland, Ore., Salt Lake City, Utah, Helena, Mont., Spokane, Wash., San Francisco, Cal.

International Harvester Company of America, Chicago, U. S. A.

The Largest and Finest Stock of Furniture in the West

STREIT Morris Chairs

Davenport Beds and Box Couches

Streit Morris Chairs are the climax of perfection in Morris Chair construction. They embody all the advantages or rest and comfort found in other Morris Chairs and give you the added advantage of the Streit patent foot rest found in no other chair.

The Streit davenport beds are of the same high character. When they are made up they are perfect Davenports with no resemblance to a bed, and when in bed form you would never suspect them of being a davenport. Let us show them to you.

Prompt Delivery in Perfect Condition

We close Saturday Noon During This Month



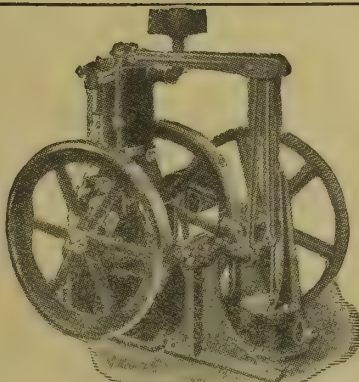
Pease Bros. Furniture Co.

NOT CONNECTED WITH OTHER STORES

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A Handy Little Engine

Just the thing to run the feed cutter, the pump, the churn, the grinder, or anything on the ranch. It's well named

The Little Wonder

Write or call on

Wm. Gregory

602 No. Main St. Los Angeles, Cal.

A GOOD WATCH

Especially Adapted for Hard Service

Seventeen fine Ruby Jewels, Adjusted to temperature, compensation balance, patent micrometric regulator, handsomely damaskeened. Fitted in solid back, dust proof, swing ring, Nickel or Silverine Case. Guaranteed.

19 Size, Large \$ 9.00 16 Size, Medium \$11.00

Prices on other movements, sizes and grades are equally low.

(Charges prepaid, money refunded if not pleased.)

Write for Complete Watch, Jewelry and Silverware Catalog No. 10. It is free.

BROCK & FEAGANS

Broadway & 4th St. Jewelers Los Angeles

The Fresno Republican says that even the California farmer is enjoying prosperity this year. The grain crop of that county is over \$1,000,000.

SURE CURE FOR PILES

ITCHING Piles produce moisture and cause itching. This form, as well as Blind, Bleeding or Protruding Piles are cured by Dr. Bosanko's Pile Remedy. Stops itching and bleeding. Absorbs tumors. See Jar at druggists or sent by mail. Treatise free. Write me about your case. DR. BOSANKO, Philada., Pa.

Addison Double Plunger Pump Head



It will pay you to investigate the Addison before purchasing a pump. Send for Catalogue B.

Addison Pump Company

Phones: Home 91; Sunset, Black 1551

Cor. 1st and Cypress Sts., Pomona, Cal.

Smith's Portable Power Sprayer

For 200 Pounds Pressure

1 1/4 H. P. Engine

240 Gallon Tank

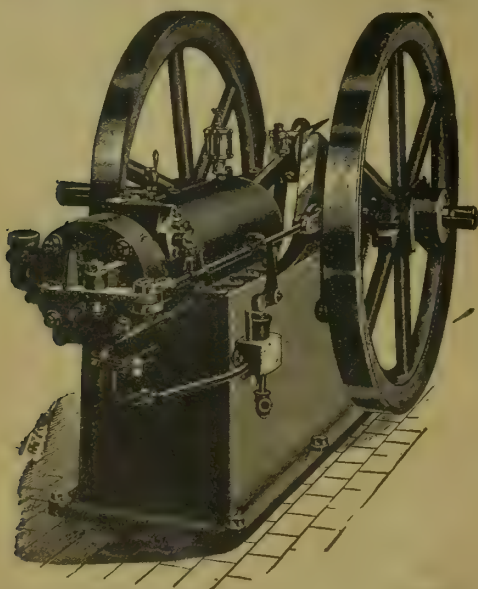
Complete Outfit, including Hose and Nozzles, ready for operation.



Powerful, well built, durable and efficient. Write for special circular and prices.

Large Variety of Hand Sprayers in Stock

S. J. Smith Machinery Co. Power and Pumping Plants
212-214 So. Los Angeles St., Los Angeles, Cal.



The
Stover
for
Simplicity

2, 3 and 5 H. P. Vertical
5 to 60 H. P. Horizontal

Livingston & Lee

553 No. Main St.
Los Angeles, Cal.

STEARNS GASOLINE OR DISTILLATE ENGINE

Has many points superior to any other engine.

Hundreds In Use
Every One Satisfactory

Built for California cheap fuel.
For further information, write

STEARNS GAS ENGINE WORKS

1001-3-5 North Main St.

Los Angeles, California



LET THE Simplex Separator

Do Your Skimming

GUARANTEED CAPACITY
LIGHTEST RUNNING
CLOSEST SKIMMING
EASIEST CLEANED
MOST DURABLE

The Largest Capacity for the Money of Any Separator on the Market. Hand and Power Sizes

Everything for Creamery, Dairy and Cheese Factory. Write for Our New Price List S.

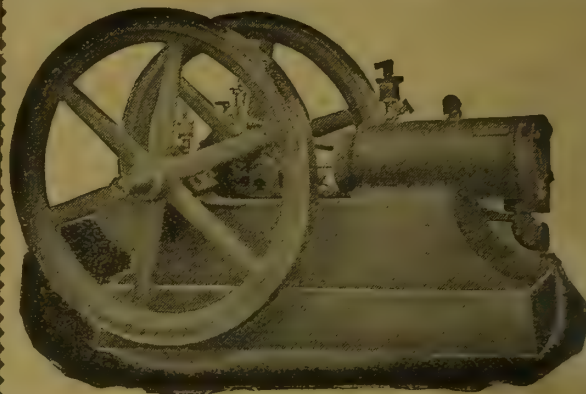
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Samson Gasoline and Distillate Engines



Are Strong and Durable

Fully Guaranteed in every particular

We make complete Irrigation Outfits

Samson Centrifugal Pumps Are the Best.

Enlargement of our factory makes it possible for us to make prompt delivery. Send for our new catalogue and estimates.

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Office and Factory, 1100 to 1198 Aurora St., Stockton, Cal.

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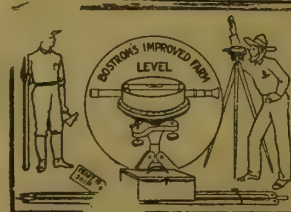
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The Highest Grade Made. Won First Prizes at Sacramento and Porterville Fairs. Large stock always on hand. Send for Pump and Engine Catalogue

G. W. Price Pump Co.

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BOSTROM'S IMPROVED FARM LEVEL

Used for irrigation and drainage work. Cheapest, best level yet invented for farm use. Has the latest patented improvements in simplicity and usefulness. Can be operated by any one. Price including scope tripod and target rod \$12.50.

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Send for Circular. Coast Agents.

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Woodward Pat. Machine Banded Pipe, Wheeler Pat. Continuous Stave Pipe, Bored Wood Water Pipe

Made from California Redwood **WOOD PIPE** Or Selected Puget Sound Yellow Pine

Puget Sound Office: Olympia, Washington

Los Angeles Office: Cor. First and Spring Sts.

San Francisco Office: 268 Market St.

Salt Lake City, Utah: 207 Dooly Block

A Booklet, "The Whole Story About Wood Pipe," mailed free upon request.

Concussion Can't Miss

Patented April 21, 1905



This Gun has a Record of 150 Gophers Without a Miss

SURE POP CONCUSSION GUN

Made of brass and will not rust.

Shoots 38 Blank Pistol Cartridge

John D. Keller, Manufacturer

327-347 W. Santa Clara St. San Jose, Cal.

500,000 FEET OF WATER PIPE

All sizes, Galvanized and Black, slightly damaged. Special Price While It Lasts. Phone or write.

ADAMS PIPE CO., 603 Grant Bldg., Los Angeles, Cal. Phones: Main 1917, Home 21

California Cultivator

Los Angeles

August 22, 1907

San Francisco

Date Culture in the Southwest



Phoenix Dactylifera

THE name "Phoenix" is that of the fabled bird of Arabia who dwells in the desert. After a life of five or six hundred years, she builds her own funeral pyre, fans it with her wings to die, and from her ashes springs again in all the freshness of youth. A symbol of immortality and of life in the desert, the name lent itself appropriately to the date tree—living quite as long as the mythical bird and springing again and again from soil which could

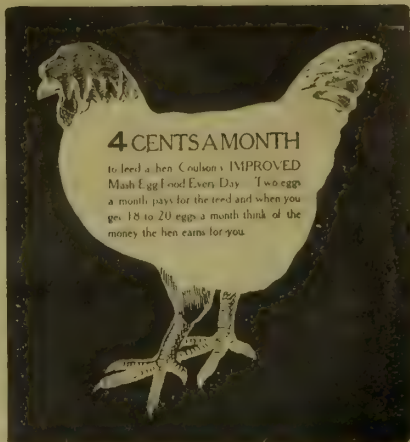
produce no other form of life. That Phoenix, Arizona, should have the chance to be one of the centers around which the development of date culture is occurring is somewhat of a coincidence.

Of about one hundred and twenty varieties imported and planted and tested by the Department of Agriculture in Arizona, nearly twenty have come into bearing. Some of these are of inferior quality, others give great promise.—[Out West.]

Coulson's Improved Mash Egg Food

**Takes
Less
Feed**

**Makes
More
Eggs**



IF YOU WANT PLENTY OF EGGS THIS FALL AND WINTER when prices are high, you must lay your plans now. The hens must be given a strong feed which will enable them to get through the molt without loss of condition, and they will then quickly commence laying again.

First, see that your hens are healthy when they start to molt. At this time of the year, after a heavy laying season, they are apt not to be at their best, and a little of *Coulson's No. 3 Condition Powder* will put new life into them, and enable them to thoroughly digest and use the good food which they specially need.

At the same time, they must have the best food you can give them from the commencement of the molt. You will find *Coulson's Improved Mash Egg Food* is just what is required. It is strong in protein, due to the blood, meat, bone and oil cake meals which it contains.

Put Up in 90-lb. Sacks Directions in Each Sack

Your hens will not need to eat so much of the concentrated food to obtain the egg-making and feather-producing materials they need, thus saving their digestive organs and your pocket at the same time.

Coulson's Improved Mash Egg Food is therefore beneficial in two ways. Less feed is required and the hen gets just what she needs, with the result of a quicker molt and more eggs.

First cost is not everything, but even in this respect, COULSON'S IMPROVED MASH EGG FOOD shows to advantage. A 90-lb. sack will make a meal for 1250 hens. This is just over 2 lbs. a hen a month. Think how many eggs does it take to pay for this feed? In November, only 1 egg, and not more than 2 on the average.

We know what this feed will do by results on our own poultry ranch, as well as from testimonials from pleased customers all over California. What it does for others, it will do for you.

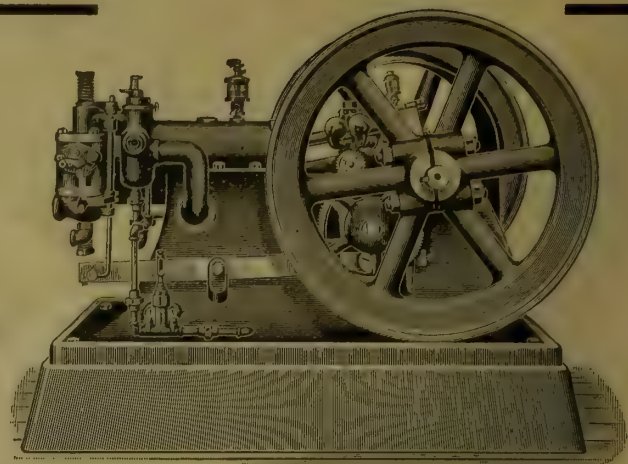
Give a trial order to your dealer; if he does not keep it, write to us, and we will either advise you where you can get it locally, or supply you direct.

Manufactured By

Coulson Poultry and Stock Food Co.
Petaluma, California

GERMAIN SEED CO., LOS ANGELES, CAL.
Distributing Agents for Southern California

AUTOMATIC?



Alamo Engines

Start so easily you think them automatic.
See them running in our salesroom.

SEE the DISTILLATE CARBURETOR SEE the POSITIVE IGNITER
SEE the FUEL-SAVING, WEAR-AND-TEAR-SAVING GOVERNOR

SEE OTHERS, BUT DON'T BUY UNTIL YOU'VE SEEN THE
"ALAMO"

Drop Us a Card

Norton Engine and Power Company
201-203 No. Los Angeles St., Los Angeles, Cal.

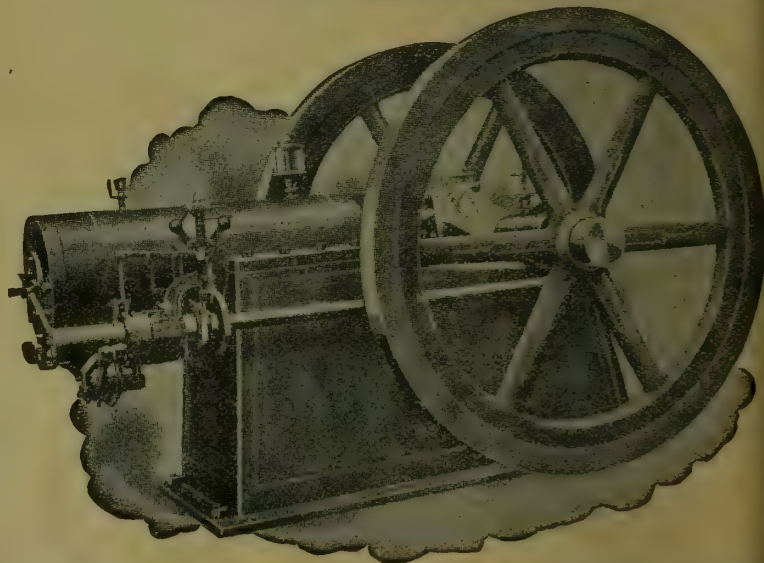
Columbus Engines

MADE BY THE.

Columbus Machine Co., Columbus, Ohio

Have stood the test fourteen years.

2 to 60 Horse Power



Here's a Good Word from a Man Who Knows:

Los Angeles, Cal., July 8, 1907.

To Whom it May Concern:

We have recently installed and now have in operation on our ranch near Anaheim a 60-horse-power Columbus Distillate Engine. This engine is belted up to a No. 6-2 stage pump, in a 90-foot pit, and is running along on an apparently easy load and pumping by actual measurement over 150 inches of water. Our fuel consumption has averaged so far four gallons per hour.

To the man who wants plenty of water, little trouble and economical engine, and one that develops the full horse power, we can cheerfully recommend the Columbus Engine.

We have had experience with high speed so-called big horse power engines, and know whereof we speak when we recommend the Columbus Engine to the public, knowing that it is a kind you can depend upon, free from all trappy devices, simple to operate and economical.

The writer has run a 10-horse Columbus Engine at Tropico, for the past four years, and can vouch personally for the above statement.

Trusting that this information will be a benefit to those interested, we beg to remain,

Yours very truly,
THE ANAHEIM PRODUCE CO.,
By E. B. Barry, Manager.

Greenleaf-Compton Co.

121 South Los Angeles St.

Los Angeles Cal.

California Cultivator

XXIX—No 8

Los Angeles, California, Thursday, August 22, 1907

Subscription \$1 a Year

The Measurement of Water

A Miners' Inch and Box to Measure It; Also Tables for Weir Measuring Miners' Inches and Cubic Feet

THE measurement of water is, as a rule, little understood by the irrigator and at the same time it is of much interest. During the past week we received inquiries as to how to measure and we give on this page tables which have been in the Cultivator before, but which have a new worthy of giving them repetition.

Those of our subscribers who do not file the Cultivator, will find this page of value to save it where it may be turned to. Bear in mind that in the last issue of December an illustration will be given which will make the coming months' issues of value. File them.

First, what is a miner's inch?

Miner's Inch.

A miner's inch is peculiar to California, nearly all other sections using cubic feet to express the quantity of water. Here it is a somewhat indefinite term, all engineers not using the same. It is above the center of the aperture by which measurement is made, neither the same for a weir nor in making the computation. This variation makes a difference in measurement of from 1.20 to 1.75 cubic feet per minute per inch. If measurement is made through an aperture two inches wide and of length sufficient to pass the water and it is six inches above the center of the aperture, it would make a six-inch head and give flow of 1.5 cubic feet to each square inch of the open-

Measure An Inch.

For that measurement a box should be constructed, at more or less expense, with an open-made variable as to length, by a sliding stop, shown in the cut of "A Miners' Inch Measuring Box." The lower edge of the aperture shown in the cut should be two inches above the bottom of the measuring box and the plank five inches above the aperture, thus making a six-inch head above the center of the stream. Each square foot of this opening represents a miner's inch, which is equal to a flow of one and one-half cubic feet per minute.

This convenience, however, is seldom at hand, we also give a cut illustrating, the "Weir Measurement," which is so simple that any one may construct and get at least a general idea of the amount of water flowing in a stream. The miner's inch here is usually figured on the basis of four-inch pressure.

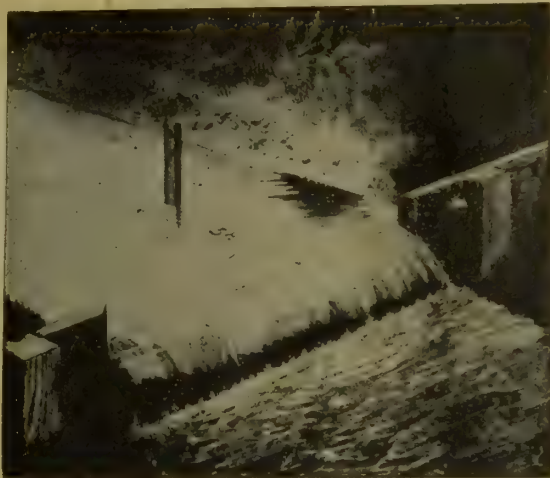
The weir should be so placed that the water flowing over it shall be in effect a discharge from the still water of a reservoir and shall not be in the least affected by the velocity of the current flowing into the reservoir or weir box. The velocity of an inflowing current, if noticeable at the weir, becomes a "velocity of approach" which will render inaccurate the desired measurement. This "velocity of approach" may be obviated by placing one or more lattice screens made of laths or other similar construction between the weir and the inlet.

The length of notch should be at least four feet for small quantities, and longer for large quantities. In addition to the above, for accurate measurements it is advisable, if possible, to also have the length of the notch about one-third of the width of the water on the upstream side; it may be necessary to experiment somewhat in order to obtain this condition.

The overfall, or vertical distance, the water falls on the down-stream side, should be about

twice its depth—that is, 12 inches if the notch is six inches deep, and so on.

In the pond not less than three feet, and preferably six feet from the weir and to one side so as to avoid any current, drive a stake, with its top



Weir Dam Measurement

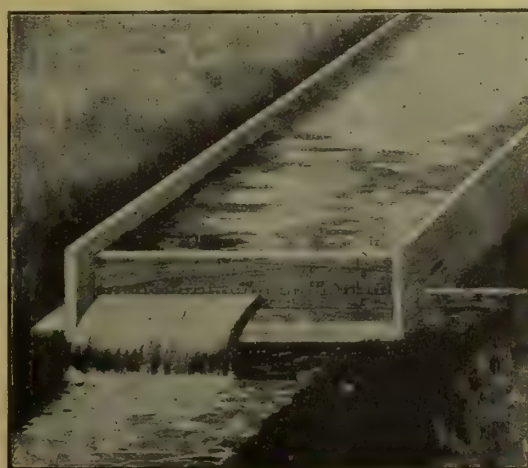
precisely level with the bottom of the notch in the weir; then measure carefully with a rule the depth of water over the top of the stake. This will give the theoretical depth of flow.

The two tables given on this page may be used to determine either the number of miner's inches or the number of cubic feet per minute.

TABLE FOR WIER MEASUREMENT.

Giving Cubic Feet of Water per Minute, that will Flow Over a Wier Once Inch Wide and From 1/8 to 18 3/8 Inches Deep.

INCHES	1/8	1/4	3/8	1/2	5/8	3/4	7/8
0	.00	.01	.05	.09	.14	.19	.26
1	.40	.47	.55	.64	.73	.82	.92
2	1.13	1.23	1.35	1.46	1.58	1.70	1.82
3	2.07	2.21	2.34	2.48	2.61	2.76	2.90
4	3.20	3.35	3.50	3.66	3.81	3.97	4.14
5	4.47	4.64	4.81	4.98	5.15	5.33	5.51
6	5.87	6.06	6.25	6.44	6.62	6.82	7.01
7	7.40	7.60	7.80	8.01	8.21	8.42	8.63
8	9.05	9.26	9.47	9.69	9.91	10.13	10.35
9	10.80	11.02	11.25	11.48	11.71	11.94	12.17
10	12.64	12.88	13.12	13.36	13.60	13.85	14.09
11	14.59	14.84	15.09	15.34	15.59	15.85	16.11
12	16.62	16.88	17.15	17.41	17.67	17.94	18.21
13	18.74	19.01	19.29	19.56	19.84	20.11	20.39
14	20.95	21.23	21.51	21.80	22.08	22.37	22.65
15	23.23	23.52	23.82	24.11	24.40	24.70	25.00
16	25.60	25.90	26.20	26.50	26.80	27.11	27.42
17	28.03	28.34	28.65	28.97	29.28	29.59	29.91
18	30.54	30.86	31.18	31.50	31.82	32.15	32.47



A Miner's Inch Measuring Box

Suppose the weir to be 66 inches long, and the depth of water on it to be 11 5/8 inches. Follow down the left hand column of these figures in the table until you come to 11 inches. Then run across the table on a line with the 11, until under 5/8 on top line, and you will find 15.85. This multiplied by 66, the length of the weir, gives 1046.10, the number of cubic feet of water passing per minute.

Table of weir measurement giving miner's inches.

1	2	1	2	1	2	1	2
1/8	.01	3/8	2.56	7/8	7.04	12 3/4	15.27
1/4	.04	4	2.69	7 3/4	7.22	13	15.72
3/8	.07	4 1/8	2.81	7 7/8	7.40	13 1/4	16.18
1/2	.12	4 1/4	2.93	8	7.58	13 1/2	16.64
5/8	.17	4 3/8	3.07	8 1/8	7.76	13 3/4	17.10
3/4	.22	4 1/2	3.19	8 1/4	7.93	14	17.57
7/8	.27	4 5/8	3.33	8 3/8	8.12	14 1/4	18.04
1	.33	4 3/4	3.47	8 1/2	8.30	14 1/2	18.52
1 1/8	.39	4 7/8	3.61	8 5/8	8.48	14 3/4	19.00
1 1/4	.46	5	3.75	8 3/4	8.67	15	19.48
1 3/8	.54	5 1/8	3.89	8 7/8	8.86	15 1/4	19.98
1 1/2	.62	5 1/4	4.03	9	9.05	15 1/2	20.47
1 5/8	.69	5 3/8	4.18	9 1/8	9.23	15 3/4	20.97
1 3/4	.77	5 1/2	4.32	9 1/4	9.42	16	21.47
1 7/8	.86	5 5/8	4.47	9 3/8	9.62	15 5/8	22.47
2	.95	5 3/4	4.62	9 1/2	9.81	17	23.50
2 1/8	1.04	5 7/8	4.77	9 5/8	10.00	17 1/2	24.54
2 1/4	1.13	6	4.92	9 3/4	10.19	18	25.58
2 3/8	1.22	6 1/8	5.08	9 7/8	10.39	18 1/2	26.65
2 1/2	1.32	6 1/4	5.24	10	10.59	19	27.74
2 5/8	1.42	6 3/8	5.39	10 1/4	10.99	19 1/2	28.83
2 3/4	1.52	6 1/2	5.54	10 1/2	11.39	20	29.95
2 7/8	1.63	6 5/8	5.71	10 3/4	11.80	20 1/2	31.07
3	1.74	6 3/4	5.87	11	12.22	21	31.21
3 1/8	1.86	6 7/8	6.04	11 1/4	12.65	21 1/2	33.36
3 1/4	1.97	7	6.20	11 1/2	13.06	22	34.52
3 3/8	2.08	7 1/8	6.37	11 3/4	13.50	22 1/2	35.70
3 1/2	2.19	7 1/4	6.53	12	13.94	23	36.90
3 5/8	2.31	7 3/8	6.70	12 1/4	14.38	23 1/2	38.10
3 3/4	2.43	7 1/2	6.87	12 1/2	14.82	24	39.32

For instance: If the rule indicates a depth of three and one-eighth inches of water, turn to column No. 1 for three and one-eighth inches. Opposite it in column No. 2 is 1.86, which means that for every inch of the weir there is flowing 1.86 inches. If the weir is 36 inches long: $36 \times 1.86 = 66.96$ miners' inches over the weir.

One cubic foot of water equals seven and one-half gallons.

One cubic foot of water equals 62 1/2 pounds.

One cubic foot of water per second equals 50 miners' inches, or, one miners' inch is .02 cubic feet per second.

One miner's inch equals nine gallons per minute, or practically 13,000 gallons each 24 hours.

Nearly every farm has at least a few acres which are of little value for growing agricultural crops. This land should be set aside for a woodlot and devoted to the production of fuel, fence posts, and timber for farm uses.

The species best suited for plantations of these various sorts, as well as planting directions and advice as to protective measures, are subjects which the owners of unimproved lands should acquaint themselves by consulting the best authorities in our national forest bureaus.

It is as impossible to farm in California without a good agriculture paper as it is to do a day's work without first eating a wholesome breakfast. The really good farm paper, whose subject matter is written by those who know, is always filled with suggestions which benefit, and he who reads cannot help but become a good farmer if he follows the suggestions.

Deciduous Fruit Culture

EARLY GRAPES.

A FRIEND has just called our attention to a curious case of early ripening of grapes. A Niagra vine is trained over a window which has a wire screen and has no glass. This opens directly from the house and on that part of the vine which is opposite the window, the grapes ripen two weeks earlier than they do on the balance of the vine. No doubt the warm air which goes from the house out of the window, hastens the ripening in this case. At any rate, the grapes from that part of the vine are ripe and gone while the balance are still green.

AN EXCEPTION.

What seems to be an exception to the rule in pruning grape vines was shown us recently in the Sacramento valley. All scientific grape growers for generations back have advocated pruning to canes which come out of the previous year's growth. This has been the teachings of the university officials and is the only true method to follow. It is almost universally true that grapes bear better where such pruning is done than when sprouts coming from below the crown are used for fruiting wood. Even if the vines bore equally, as well when pruned either way, the ad-

vantage would be in favor of pruning to what is known as fruit wood, that is, canes coming regularly from the previous year's growth. This enables the grower to get trees in a condition for systematic work. It enables the pruner to make a shapely standard and insures a longer life to the vine than when shoots form below the crown are used for fruit wood. The case referred to above was a row of Thompson seedless. It was in the center of a block and was allowed to retain the sucker growth below the crown. This sucker growth known as "bull canes" is producing apparently as many grapes as the fruit canes on the properly pruned vines.

SPRAYED PEACHES.

We recently overheard a conversation between two trucksmen in Fresno. One had just finished hauling peaches from a five-acre orchard near town. This orchard was the only one that had a full crop in the vicinity. Truckman No. 2 asked No. 1 why it was and the answer was that the man with the big crop of peaches had sprayed and the other growers had not. This should serve as a striking example for those who have not been able to see the virtues of spraying.

BUDDING.

August is the month for budding trees and, as numerous requests come to the Colorado Agricultural College for information on this subject, a brief description of the art should be of interest.

All our first fruit trees may be propagated by budding, and old trees are successfully worked over by this method if the young branches are used. This method of propagation is most used, however, in growing nursery stock where seedlings are used for stock which are to be worked over into a desired variety.

The Bud.

The buds are taken from well matured twigs of the current season's growth, and are found just above the base of each leaf stem. When the bud sticks are cut, the leaves should be trimmed off at once, leaving a short piece of the leaf stem, which is to serve as a handle to the bud. They should then be wrapped in moist cloth, so that they will not wilt. The buds are cut from the stick just as they are to be inserted in the stock. A very sharp knife must be used for this purpose. Begin at the lower end of the stick and insert the knife about three-fourths of an inch below the first plump bud. Now, with one clean movement of the knife, cut slightly into the wood and bring the blade under the bud and beyond about three-quarters of an inch to the

surface. We now have the bud moved from the stick and attached a thin piece of bark and wood.

The Cut.

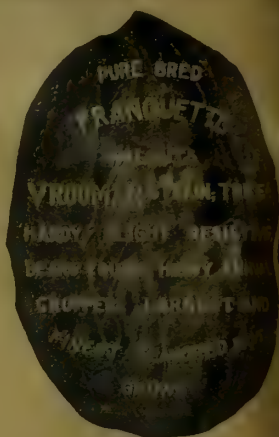
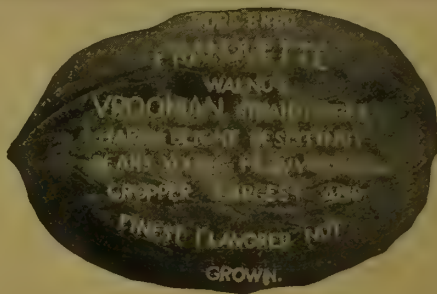
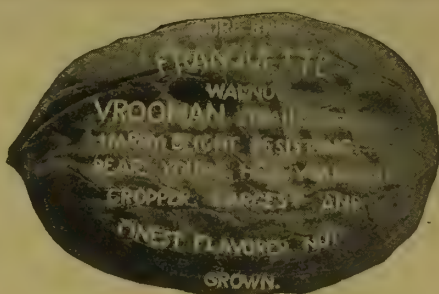
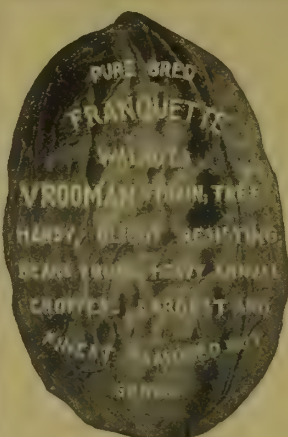
The stock is ready to be budded any time that the bark will slip. This is usually in August, but the season may be greatly varied where we can control the water supply. In seedling stock, the buds are inserted as close to the ground as convenient for tying. A T-shaped cut is made in the stock, usually on the north side; then the bud is cut and inserted. By taking hold of the leaf-stem-handle, the bud may be pushed well down between the bark and wood of the stock where it is firmly held.

Tying.

The last operation is tying. For this purpose the inner bark of a tree is used, which is known to the trader as raffia. The raffia is cut in convenient lengths and kept moist. Begin at the bottom of the cut and wrap upwards, being careful not to cover the bud itself. The raffia should be wrapped tightly, and a sufficient amount used to cover all of the surface. The wrapping is essential in order to keep the parts from drying out.

Cutting String.

In about two weeks the buds will have "taken," or become attached to the wood, when the raffia must be cut. If left too long, the growth



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to you the difference between the PURE BRED FRANQUETTE WALNUT—as shown on the border of this Ad—and the ordinary English walnut. When you buy walnut trees, BE POSITIVE WHAT YOU ARE GETTING. Guessing is uncertain and often expensive.

Our walnuts for seed purposes and our scions for grafting purposes are all secured from Mrs. E. M. Vrooman's famous GRAFTED FRANQUETTE WALNUT grove of Santa Rosa, California. Her grove contains

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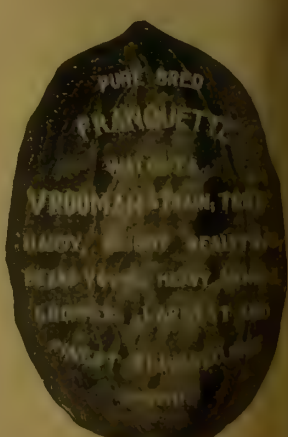
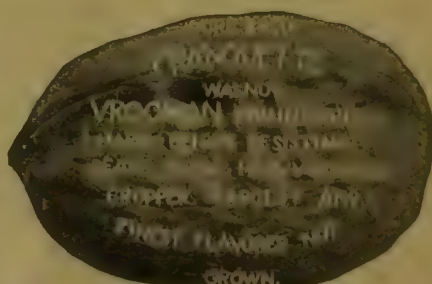
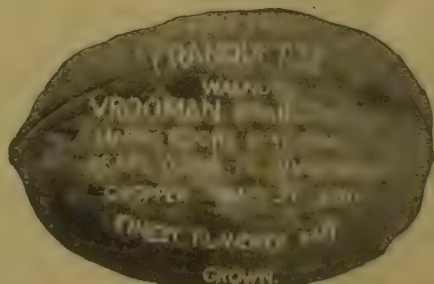
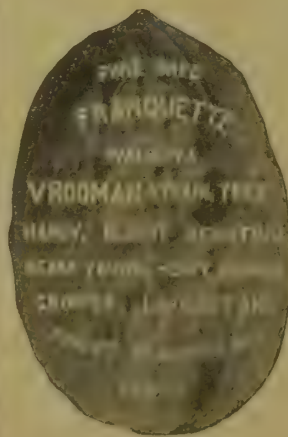
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tree or limb and is likely to cause wrapping to become very tight, the effect is similar to girdling. The buds should remain dormant the following spring. The stock cut off just above the bud, and operation is complete.

Pruning Over Old Trees.

sometimes pays to bud over trees when the varieties are satisfactory. In order to do this advantageously, the branches should be cut well back, so as to induce a growth of new, vigorous limbs. The following summer these growths should be budded as described above. One may learn to bud successfully, but it requires a great deal of practice before one becomes at all skillful in the art.—W. Paddock.

CANTALOUPE BLIGHT.

The fungus disease that attacks the cantaloupe in nearly every melon growing section of the United States is a serious menace to the industry. Numerous experiments in spraying to control the disease have all proved impracticable, owing to the imperfect results and the expense of such work. Experience has shown that the disease is more apt to develop in rains and heavy dews, or excessive irrigation, consequently well drained soil and good irrigation furrows, with judicious use of water, give better results. But the most encouraging means of avoiding the disease is by crop rotation and the use of disease resistant seed.

In 1903 the Colorado Experiment Station instituted a line of investigation to develop a disease resisting cantaloupe from our irregular Netted variety. Bulletin No. 104, published by the Colorado Experiment Station in 1905, reviews the beginning of this work. In this effort, the element of quality was of first consideration, and the result of each year's progress is most encouraging. In order to test the practical merits, under growing conditions, small quantities of the seed of our rust resisting cantaloupes were grown at a number of the experiment stations in the melon growing States and their reports are flattering as our own.

Selection.

The investigation has emphasized the importance of systematic seed selection in order to develop the essential elements desirable in a cantaloupe. An outline of our system is as follows:

Beginning with the foundation of a select specimens that represent among them the most desirable qualities that can be found, the seed of each of these should be saved separately and a minute description of each melon recorded, and a record number given to each. The seed of each individual specimen should be planted in a plat by itself, so that its inherent tendencies may be noted and the individual merit of any specimen then be seen. The selection of individuals is the key to advance in the work, and the selection of the best for its points of merit is as essential as the qualities of the fruit.

Resistant Plants.

When the presence of a disease is noted, the plat is gone over and any resistant plants are marked; also desirable fruiting qualities, such as sweetness, prolificness, vigor and uniformity of fruit. The individual specimens are selected, records made, their seed saved separately and numbered from the plant that produced them. Near the close of the

season the plats are again noted for disease resistance and of those that reveal the most resistant traits, their seed may then be identified by number, thus a scientific selection of the seed of highest merit can be made that will improve the qualities in proportion as the different points are given consideration. For developing disease resistance we have grown our most resistant plants on the same plat for five consecutive years in order to develop the trait in as adverse conditions as possible, and the results are really wonderful. The rust resistant vines were green and almost free from rust and produced melons of first quality when the adjacent vines were dead and dried up.—Philo K. Blinn.

DECREASED ALMOND AND RAISIN RECEIPTS FROM SPAIN.

Consul D. R. Birch, of Malaga, summarizes the raisin and almond trade of that Spanish district for the past season as follows:

One-third less almonds were marketed to American buyers during the year just closed than were sold in 1905. This was due to the shorter crop and higher selling price.

Although the sales to the United States of muscate raisins fell short by 26,000 boxes, as compared with the previous year, yet the tables show the rather remarkable circumstance that the value of the 1906 sales was \$17,462 in excess of the previous season. Two violent rainstorms in September which destroyed one-half the raisin crop, caused a considerable rise in the selling price, which continually increased as the season advanced.

A gush of bird-song, a patter of dew,
A cloud, and a rainbow's warning,
Suddenly sunshine and perfect blue—
An April day in the morning.

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The use of hundreds of I. H. C. engines by practical irrigators is evidence of how well these requirements have been met, and how well the I. H. C. engines are adapted for this special work.

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They do your pumping economically.

They run dependably with practically no attention.

Irrigators of large tracts of land must have an engine that is economical in fuel consumption. The I. H. C. engines have reduced fuel consumption to a very low minimum.

It isn't necessary to keep an extra man to attend to the engine. Only an occasional return to the engine is necessary, or a small boy can give it all the attention required.

If you have a lake or stream below your land, or ditch, just look into the matter and see how well an I. H. C. engine will solve your irrigating problem.

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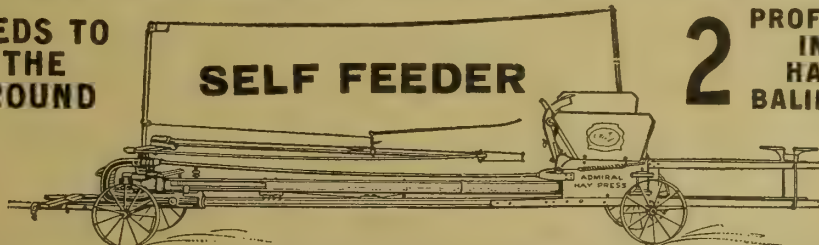
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One month's earnings over the other press (26 days)..... 97.50

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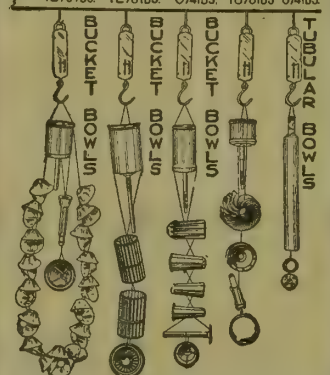
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of the four on the left? Why not save her hours of cleaning every week by getting a Sharples Dairy Tubular Cream Separator with a simple, light, Tubular bowl, easily cleaned in 3 minutes, like that on the right? It holds the world's record for clean skimming.

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Live Stock and Dairy

CORN.

ECONOMY requires the use of a corn harvester and binder. This delivers the corn tied in bundles that are easily lifted with a fork to the wagon-bed. The binder is a labor-saving tool that should be added to the equipment of every corn grower. There are two styles of corn harvesters, one that requires the corn to be bound by hand, by a man riding on the machine, like the sack sewer on the combined harvester; the other is automatic. Either of these machines or corn harvesters are a saving of money and labor over the old way of cutting and binding by hand. The corn is left in good shape to be fed out after the ears are snapped off as fodder, or to be siloed ears and all.

Corn Stalk Disease.

Another way of harvesting corn is simply to go over the field and gather the ears, leaving the stalks standing. The cattle are then turned from the richer pasture fields into the fields of corn stalks to gather up the stalks and dropped ears of corn. The standing stalks are subjected to the night dews and any showers that come along and become sodden and mouldy. Digestive troubles arise at once and many cattle die from impaction of the rumen or else from bloating. This is the common cause of losses in the river bottom lands of California. There is, however, a trouble that is called "Corn stalk disease" that sometimes is severe in the Middle West. November and December seem to be the months in which the cattle are most affected. The disease is painful, the cattle have an unsteady reeling gait, often have convulsions and partial paralysis. The symptoms of the disease indicate that the poison affects the nervous system, for the lungs congest owing to a weakened heart action, with a further result of paralysis of the hind quarters. The source is thought to be a ptomaine produce by rotting the corn plant caused by excessive moisture.

Whole Corn.

Shelled corn is often fed in the West without grinding; in California the little that is used is in the form of meal. At one time the dairy journals were full of pictures of mills to grind the corn and cobs together. The idea being that the heaviness of the corn was lightened by the cob meal. This is recommended still every now and then by some feeders. I tried it several times but the cows thought it was not particularly good to eat. Whenever a cow does not eat her food up clean, then stop feeding it, for she must eat her grain if she makes returns at the pail. Corn can be fed on the cob to horses and if they are young and have good teeth they seem to relish it as a change.

The Silo.

I wish there were letters of gold to write the word silo in! This is absolutely the one best thing to do with a corn crop, ever bit is saved and every bit makes milk—milk—milk! The cows thrive and grow silky of hair, and mellow of skin when silage is part of their daily feed. I saw fine corn silage at

the Polytechnic school the other day. The odor like that of fresh brewers' grains was there. The smell of silage to the cow, I fancy is like that fresh pleasant odor, when the bread is taken out of the pans, is to us; a hungry odor that makes the mouth water. I have seen the cows when the silo was first opened come up to the corral lowing with the water dripping or drooling from their mouths as they eagerly waited to taste that fresh silage. I have watched them plunge their noses deep into the troughs and stand in rows as their jaws moved rapidly; I have said to them: Is it not good? the answer was merely long breaths and the sound of rapidly moving jaws; too busy to be troubled with silly questions like that. I wonder if Mr. Roosevelt ever stood by a lot of cows if he might come to understand that expression is often more than actual speech, that we can understand any animal if we love it, enough to be able to catch a glimpse of the workings of its thoughts.

Feeding of Silage.

A little caution in feeding silage. It is well to consider that it ferments quickly after taking from the silo. Therefore, it should always be fed outside the barns in open troughs that can be readily swept out. The silage left by the cows should be carried to the outside cattle and yearlings, they will relish it greatly. Silage should not be fed until after milking time as the cows may make the milk taste of it as they breathe off the volatile oils in the stables. The neglect of these simple little precautions has brought silage into disfavor with some of the larger consumers, the condensers. These in some places refuse to receive milk from silage-fed cows. As a rule, the condensers pay the highest price of any of the factories so that it is too bad that careless feeders should bring a cheap and valuable food into disrepute. I expect to hear the same thing at almost any time now, about alfalfa for careless feeding that is even fore fatal to the good flavor of milk than rotten silage can ever become.

Prices Paid.

While it is desirable to receive the advanced prices from the condensers, still it is not always so profitable as it is to receive less from the milk and have a larger quantity to sell produced at a less cost. The dairyman has to be a close figurer if he desires to take all the net profit that belongs to him. High-priced grains fed instead of ensilage and he has only to consider the present cost, but also to consider whether the cows will be as good physically as when the more succulent food is freely used. I believe that the health of cows is best on grass, then on ensilage as this is merely "canned" grass. It is their natural food and they perfectly assimilate it. While man is not a grass-eating animal by nature, yet I do not believe anyone will dispute the fact that they feel better when green vegetables and fruit is a large part of their diet. By actual experiment in testing the milk it has been found that cows eating nine pounds of

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in daily and thirty pounds of ensilage will not decrease in milk production or loss in bodily weight, if the pounds of the grain is taken away and ten pounds of ensilage is put in the place of it.

Cost of Silage.

Ensilage is estimated to cost the farmers \$2.50 a ton, while grain is usually worth from one to two cents a pound. Ten pounds of silage at \$20 a ton costs, therefore, one and a quarter cents, while three pounds of grain costs from three to six cents.—M. E. Sherman.

THE "HORSE DOCTOR."

Writing of the higher standard now maintained in regard to veterinary science, Geo. H. Slover of Colorado Agricultural College says:

The standard of the veterinary science course has purposely been placed very high. The requirements are equal to those of any veterinary school in America. Quality, and not quantity, is to be the motto.

Veterinary science has now assumed an important sphere of usefulness. The days of the horse doctor, whose office is in the corner saloon, are numbered. Formerly veterinary science at its best implied simply the treatment of domesticated animals from the common accidents and ailments for reasons wholly pecuniary and humanitarian. In all the history of the world, there probably has not been furnished such an unhampered field for the exercise of superstition and the practice of charlatanism.

The time has arrived when it is accepted that the veterinarian is an honored citizen in any community, whose profession is recognized as a true science, with importance second to none, as he deals more directly with contagious diseases and their relation to the public health.

The human being represents a large field in development, the practice of the veterinarian is confined to the lower animals, which represent a greater mental development. The diagnosis of disease in the lower animals is much more difficult than the human, as the symptoms are all objective. They silently and patiently endure their pain. True, they are silent,

but silence often speaks louder than words.

The losses in the Orient from the ravages of three or four animal scourges in the past can scarcely be estimated. Our knowledge of these diseases today makes it impossible that such a disaster could ever befall the live stock industry of this or any other country. As yellow fever, cholera and the plague have been mastered as diseases of the human family, in the same way, many of the scourges of the lower animals are now very well understood.

There has been more knowledge with reference to the cause, prevention and cure of diseases gained within the last twenty years than in all the history of the world before; this is largely attributed to the discovery of the germ theory of disease. The great work of the scientists now is to discover the specific cause of disease and to remove it.

It cannot be denied that prophylaxis belongs to the broad field of comparative medicine and that its two branches, human and veterinary, are inseparable. This bond of inseparable usefulness in the protection of the public health has been sealed by the anti-toxin principles of serum therapy. The immunizing of animals against fatal contagious diseases, also the cure of many diseases by the administration of repeated doses of the attenuated virus afford us a glimpse of the possibilities for scientific research in the broad field of medicine.

The new veterinary course at the college will have a large corps of able instructors. It is the purpose to turn out scientific veterinarians. At the same time, the populous countries surrounding Fort Collins will furnish an abundance of clinical material. The municipal milk and meat inspection of the city being under my charge, will furnish practical meat inspection, besides plenty of material for the dissecting room and will be helpful in the work of morbid pathology and milk inspection. The veterinary course certainly has a promising outlook.

Feed the heifer calves well. It fixes the habit of consumption and digestion and develops the digestive organs.

A Great Holstein Cow

The Cultivator is pleased to give this week an engraving of the cow which claims a great record for a high price for a dairy animal. Her former owner writes us regarding her, as follows:

"It may be of interest to the readers of the Cultivator to know some-

each in seven consecutive days. The greater part of these large records having been made during the past winter. 'Ybma 3ds Pledge Clothilde,' a reproduction of whose photograph appears in this paper, was the fifth cow in the world to reach the 30-pound official mark. On account of



thing of what is being accomplished along the line of the development of one of the most popular breeds of dairy cattle, the Holstein-Friesians. A system of advanced registry rules adopted by the Holstein-Friesian Association of America is, without doubt, the greatest source of developing the most useful animal known to man. Without this system the world would never have known, accurately, anything of the possibilities of the Holstein cow. As it is now the whole world may know, through this system of officially conducted tests, the most valuable animal of this great breed of cattle. There are now eight cows of the breed with records of over 30 pounds of butter

her great producing capacity and superior dairy type, Messrs. E. H. Knapp & Son, proprietors of the Greenwood Stock Farm at Fabins, N. Y., received from Mr. D. W. Field of Massachusetts, \$6000 for her. Her official records in full are as follows: At 3 years old, 457.5 lbs. milk, 20.25 lbs. butter in seven days. At 5 years old, 637.20 lbs. milk, 25.17 lbs. butter in 30 days, and 2672.00 lbs. milk, 102.68 lbs. butter in 30 days. At 7 years old (her last winter's record,) 643.9 lbs. milk, 30.38 lbs. butter in 7 days; 2629.3 lbs. milk, 121.34 lbs. butter in 30 days. She has produced during official test over 100 lbs. milk in 24 hours. These various records during several different years prove her to be a very persistent producer."

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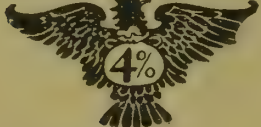
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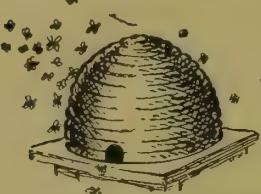
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The Ornamental Garden

EVENING PRIMROSES.

SOME years ago the famous botanist de Vries, of Amsterdam, when in Los Angeles, left, with Miss Elizabeth Day Palmer, instructor in botany in the Los Angeles High School, seed of various evening primroses. Seed from these were later given by Miss Palmer to various students, so that today many are grown about Los Angeles.

Some of these in the garden of the writer have been of such interest that these plants are deemed worthy of particular notice. One feature peculiar is the rapidity with which the flower opens in the evening.

At sunset they begin to unfold, and while one stands before them a few moments, dozens have popped out, as one expressed it, "like the popping of corn." In the morning the sun soon ends the flower's existence, for it never opens again. But dozens—yes, hundreds—of others are ready for opening at evening again.

We have asked Miss Palmer to give some facts regarding these wonderful flowers and she gives us the following statement.

Few Evening Primroses in California.

A few of the new species of Evening Primrose discovered, described and cultivated by Prof. Hugo de Vries of Amsterdam have been introduced into California and are now being sown in the field by the Botanical Department of the University of California for purposes of experimentation.

They are handsome plants with their graceful foliage and large canary-yellow flowers, which open in great clusters as evening comes on. First planted because of their scientific significance, they have quickly become favorites in the garden, because of their beautiful flowers which brighten the evenings of the summer and early autumn months.

"As mutants from their parent species, *Oenothera Lamarckiana*, these several new forms are of equal value, but as horticultural plants some are more desirable than others. The parent species itself has long been a garden favorite in various countries of Europe; in fact, ever since its introduction from America, more than a century ago, and is still used there, as here, for parks and large grounds. Erect, more or less branched, symmetrical, with leaves whose long, narrow blades dwindle gradually in size from the rosette on the ground to the great terminal clusters of flowers, they attract the attention of the artist as well as the botanist and florist. Their flowers call to mind those of the Evening Primrose (*Oenothera Hooker*) that graces the streams and irrigating ditches throughout our State, yet these have the handsomer plant, inasmuch as our native species is decidedly scraggly and its individual leaves small and narrow.

Still Greater Beauty.

But even this *Lamarckiana* is surpassed, as an horticultural form, by its mutant *Oegigas*. In this species not only the leaves are broader and the stems stouter, but the large buds spread themselves into four great, broad petals, that stand out in such proportions that they make a magnificent flower and cluster, perhaps the largest of their race. In a garden where the parent type and several of its mutants grew in close proximity, for purposes of comparison, the flow-

ers of *gigas* were found to be, beyond all question, the handsomest of all.

Lamarckiana's red-nerved mutant (as *Oe. rubrinervis*) has also been described sown in various places, in the wild as well as in private gardens. This is noticeable, as its name implies, because of the conspicuous red hue of its fibers which give a decidedly red color to its stems, leaf-veins, flower-buds and capsules, penetrating even the blades of the petals where the mingling of this red and the yellow form an orange hue. Its flowers are of the size of those of *Lamarckiana*, but a trifle deeper in color, an orange tinge instead of pure canary-yellow. Its foliage is that of the *Oe. biennis* type, the wild Evening Primrose of Western America, and in habit of growth it more closely resembles its parent *Lamarckiana* than our scrawny Californian *Hooker*.

Scientifically Interesting.

Another form, the broad-leaved *Oenothera lata*, which springs yearly from *Lamarckiana* is an attractive plant in the garden where foliage adds a bit of beauty. Horticulturally, this is a fine plant. Scientifically it is interesting; for, its stamens incapable of producing pollen, it must be crossed with some other Evening Primrose in order to make seed; otherwise its race disappears with the death of the individuals of the present generation.

The several species just mentioned grow to the height of two, three or four feet, when ample space in the bed is given them, they often branch profusely and form bushy plants, three to four feet in diameter, their spikes of bright flowers blooming for many successive weeks. From June until October their beds are ablaze every night. True to the customs of their race, they close when the morning's sun becomes too warm; in Southern California sometimes before midday, further north, however, often remaining open until the afternoon.

A Fine Border.

These fine large species that fill the beds so well have a representative that makes a pretty little border-plant. It is a dwarf *Lamarckiana*, (*Oe. nanella*) with its parents foliage and flower reduced in size. Its flower clusters begin to open when the stocky little plant is but five or six inches high and continue until it reaches a foot.

These are the forms that have reached California, a selected few from the dozen (and more) that have appeared from the parent *Lamarckiana* at times during the last few years in Holland. To the scientific man they are of interest as showing Nature at work making new species, and how and when this has been done has been ably recorded by Prof. de Vries (who found them near Hilversum, in Holland, has watched them for more than forty years, and experimented with them since 1886 and in the course of these experiments found them repeatedly giving rise to these new species) in his books, "Die Mutations Theorie" and "Species and Varieties," and in separate articles in various magazines; also by Macdonald in "The Independent," for Sept. 25th, 1902 and "The American Naturalist" 1903; as well as by other writers in Europe and America who have seen these new forms growing and have been delighted with their appearance. —Elizabeth Day Palmer.

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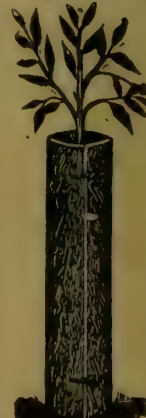
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The Vegetable Garden

TOMATO BLIGHT.

IT IS about this time of the year that the blight of tomatoes is noticeable in the fields. Plants which have made a fairly good growth gradually remain small and ripen prematurely. Other plants die in the earlier stages of growth and, in fact, all sorts of conditions may be seen in the field. This disease is widespread, and the total loss to the growers throughout the State is large.

Investigations in regard to the cause of the blight were begun at the Colorado Agricultural College some time ago and the result of the work points strongly to the following conclusions:

The disease is due to a fungus, which attacks the plants for the most part in the seed bed. This being the case, there can be no remedy for the plant after it is once attacked. This is true, for the reason that the fungus grows on the inside of the plants and evidently enters only the rootlets of young plants. By examining the tissues of a young plant with a microscope, the threads of the fungus may be seen clogging the cells where they interfere with the passage of food material.

At the present time, then, we see no hope of ever being able to combat this blight successfully in the field. But we do hope to find a method of prevention by improving the sanitary condition of the seed beds. With this end in view, we believe it will pay to thoroughly clean and disinfect the frames or flats in which the seeds are planted. This may be done by washing or spraying all of the parts after the dirt and soil have been removed with a strong solution of copper sulphate. Then fresh soil and manure should be procured, which should also be sterilized. This can be best done by steam. This may be done at small cost by fitting up a small system of two-inch iron pipes which are to be placed in the bottom of a bed made for the purpose. Three ten or twelve-foot lengths of pipe will be ample, and small holes must be drilled in them about six inches apart to allow steam to escape. The pipes are now placed parallel to each other and connected at both ends, so that they are about 18 inches apart. The apparatus may be connected to a traction engine or other available source of steam supply. Soil should be filled into the bed over the pipes to the depth of about one foot, then the surface covered with gunny sacks or some similar material. If steam is turned on for an hour, the low organisms will be killed, and plants which will be practically free from blight should be raised in soil which has been treated in this manner.

While the experiments are by no means complete, it is believed that any method which will control this disease must be along the lines suggested. The experiments now under way are being studied, and the results will be reported in due time.—W. Paddock, Colorado Agricultural College.

Get after the moles by setting traps. It is an expensive and tedious process, unless you have the hunting spirit and can make a game of it, but it is the only sure way. Liquid tar poured in their runways will keep them moving, but it doesn't cure the evil.

APHIDE.

As the aphid pest causes damage to the extent of hundreds of thousands of dollars, they are worthy of more than passing comment. In my late reference to them I advised the pulling up of such melon plants as were effected. If the lady bugs are still present this may not be necessary. Usually they are not at this time of the year. My fields seem to have become stocked with the Hippodamia convergens. They seem to be the only ones that give any relief in the hot summer months. In the Coachella valley many thousands were recently introduced. I have not been able to learn with what results. The melon growers of that section will, in my opinion, be compelled to make breeding places for the lady bugs so they will be with the aphide all the year around. We find them on such weeds as pig weed and deadly night shade. Also in corn fields. Every melon grower should plant a few hundred hills of corn. In the fall the corn should be shocked head downward which assures dry shelter for the lady bugs. From my observations here, I deem that the Convergents will be the ones that will do the work in hot, dry places, as they constitute more than ninety per cent of all the lady bugs. While in the cooler spring months there is a fair sprinkling of all sorts, the hippodamia is about the only one that abounds during the summer.—J. C. Ostergard.

RASPBERRIES.

Raspberries have the same habit of growth as the blackberry, but have a more delicate growth, but the same treatment is necessary to ensure success.

It was formerly believed that the raspberry would not succeed in California, but some of the varieties do very well. As the raspberry is the most highly flavored of the berry family, it is always in good demand at high prices and usually the supply is not equal to the demand.

BLACKBERRIES

Although the blackberry season is over, the vines will want attention. If they have been properly suckered and thumb-pruned they will not need much pruning now. Canes that have borne the present season will not grow any more, but will gradually mature their wood and dry up, giving place to young canes which are the fruit bearers for next season. These require topping to make them stocky and throw out side shoots which will be full of fruit the ensuing season. Good treatment now will be apparent later on. Keep the soil moist and well cultivated and your berries will be large and sell readily.

A new company known as the La Habra Vegetable Growers' Association has just completed organization, and unless negotiations which have been pending with the California Vegetable Union are satisfactorily adjusted, will enter the field as independent shippers. The officers are H. E. Hart, president; F. R. Aldrich, secretary; and J. Leuhm, treasurer.—Fullerton News.

The Oxnard Courier says that the bean crop of that section will be rather light, owing to the fact that the early wet season "discombobulated" some of the recognized rules of growth. Certainly the water must have been very wet.



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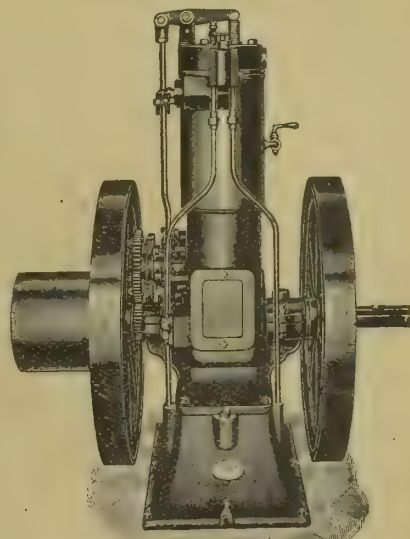
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NOT SATISFIED WITH SCUTELLISTA.

PROFESSOR Charles Lounsbury, Entomologist of the South African government, to whom we are indebted for the Scutellista cyanea, the parasite of the Black scale, recently visited California and made a tour of the State, investigating in the course of his travels the work of the parasite sent by him. In conversation with him he informed the writer that, while he had received good reports of its work, and seen some evidence of it, he was not satisfied with it. In his country the Black scale is very rare and hard to find and is being kept in check by some parasite. He had believed that the Scutellista was doing all the work, but now thinks that another parasite, which he knows as working on the scale, is perhaps the more important check, and it is his intention to see that California gets a supply of them. He stated that he would not be satisfied until California is as free from the Black scale as is South Africa.

SULPHURING FRUIT.

Consternation has prevailed among the fruit growers over a ruling of the Pure Food Commission, under the Pure Food Law, which practically made the sulphuring of fruit in drying an offense punishable under the law. Should such a ruling prevail, it would practically ruin the dried fruit interests of this State, as nearly all of our fruits are treated to a bleaching bath of sulphur. This is demanded by the public, who purchase what is pleasing to the eye rather than what is palatable. Sulphuring fruit undoubtedly injures it for food purposes, to a greater or less degree, depending upon how much sulphur is deposited on the fruit in the bleaching process, but fruit that is not so processed is not attractive to the eye, as it is dark colored and messy looking and would be rejected by the average housekeeper. With care fruit can be processed and the amount of sulphur used be so small that it is practically harmless for food purposes and very little injured by the process. All these facts have been made plain to the authorities at Washington, with the result that all restrictions have been removed for this season and before another drying season comes around our fruit men will be able to make themselves heard and get the order so modified that they will be allowed to sulphur fruits, provided the sulphur is not used in injurious quantity.

THE IRRIGATION CONGRESS.

Sacramento is making active preparations for taking care of the delegates to the coming Irrigation Congress, which meets in that city on September 2d. It is expected that some 50,000 people will be present during the convention week, as several other events are billed for the same time and the State fair immediately follows. These people will be drawn from all parts of the Union and railroads are making special excursion rates to California for this occasion. The objects to be attained through the efforts of this congress as set forth in the call, are to save the forests, store the floods, reclaim

the deserts and make homes on the land. The coming congress without question, be the most important and the most fully attended any that have ever been held.

SEEDLESS TOMATOES.

An item is going the rounds to the effect that the Agricultural Department has produced a seedless tomato. The absurdity of this is palpable when we know that the tomato is an annual, and has to be produced from seed each year, and a seedless tomato would be the end, for there would be nothing for a new crop to start from. Tomatoes may be produced with few seeds, and in fact, they have been cultivated until there is very much more meat and fewer seeds than there was, but a seedless tomato is impossible.

STANDING BY THE FRUIT GROWERS.

Governor Gillett is showing himself a friend of the fruit growers, and has done all in his power to protect them. In the fight against the White Fly he has shown himself a man of broad views and firm character, and if the new pest of the orange groves does not find its way to the citrus sections of the State, it will be due largely to the governor's action in the matter.

LIME NITRATE.

About three years ago it was announced by a French scientist that lime should be used with nitrate of soda for the following reasons: It was discovered that nitrate of soda rendered both lime and potash available. Also, potash in combination with nitrate moves more freely through the soil than other potash salts and goes to a greater depth. Lime in union with nitrate of soda moves more rapidly through the soil than it does when used alone. Lime also assists in making potash available and the nitrate working with it makes it much more efficient.

When the soil is rich in potash it may be dispensed with when nitrate is used in conjunction with phosphates. Nitrate of soda usually contains some potash and this is often seen in its effect on the crop and credited to the nitrate.

HABIT IN TREES.

It seems absurd to speak about inanimate things as trees having habits, but the same is true. Prof. Bailey, of Cornell University, in one of his lectures, declared that it was well known that if a tree commenced bearing crops every other year it would keep it up through its whole life. We have noted the same thing. Of course the alternate year bears generally gives a good crop, but it does not form the habit in the tree of bearing every year. This, we believe, can be influenced in a degree by proper pruning, feeding of the tree so that the growth is kept up. Never allow the tree to overbear one year and exhaust its vitality so that it has to go over a whole season to recuperate. Different trees have certain habits as to growth, and these habits become inbred and are transmissible, which is easily noticed in many of the freaks that we have. — Coleman's Rural.

As a rule alfalfa produces more than double as many tons per acre, as compared with clover, and is as rich or richer in nutritious properties.



Does this stream of water look good to you? It certainly does to the two men standing beside it. They are the President and Treasurer of the company to whom the plant belongs. It is raising 40 inches of water from 250 feet below where they are standing. This water goes into a reservoir 18 feet above the pump through an 8-inch pipe-line about one-eighth mile long and you cannot see a pulsation in the discharge if you try. It has been doing this for over a year. There have been no repairs, not even new leathers, and it runs better, if such were possible, today than it did a year ago. How many pump users can say this? It shows conclusively that it pays to install good machinery. We have done this for these people and we can do it for you if you give us a chance. Our catalog tells all about it. Mail us a card asking for it today.

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With the Citrus Growers

OUR EARLY ORANGES.

early oranges that are turned of Southern California every are a tax on the lemon pro- as it surely must interfere with trade, for who would want when our "early" oranges are market. They can make a blush when it comes to pro- acid. In order to make them yellow, they are treated like "heads" (rank green lemons,) till they turn yellow. The and Central citrus belts en- the field to compete with the California holiday orange, as, the South comes in and ns the Northern growers with competition in the shape of land and water in almost un- quantities.

the desert regions are certain lo- which are always so nearly from frost that the question of ing need not enter into the ques- Oranges raised in these places o doubt be lacking in flavor, but ill make a better show than the colored article and will not be d on the stomach nor the lemon

ges in the regular Southern nia citrus fruit belt are now an 300s in size while the des- icle will now make 150s. These e put on the market before any oranges in the State. Next will the Northern oranges, followed main crop of the South. The region will wind up the season Valencias not very long before desert crops comes again. It has asserted by some that the mid- and fall oranges are the best makers. This is no doubt true, the winter crop comes when the n market is free from all fruit ing oranges and apples. When ter is a light crop, oranges have rket pretty much to themselves, predicted some years ago, that all crop would not be a good maker as it would come when fruits were on the market. This roven not to be the case, so it that the original orange grow- sion of the State may still hold enter position in the industry t resorting to the sweat-house of handling part of its fruit rrying over the products of ssections.

THE WHITE FLY.

There has been a great deal said the conditions concerning the Fly at Marysville.

is claimed by some authorities he fly has not been in Marys- ver one year while residents of wn claim that it has been in trees for at last three or four We were also told that the trees there have not been so during the past two years.

is claimed by some authorities he White Fly will, if not checked range trees in three years, and he climatic conditions at Marys- ould not have an influence that prolong the life of the trees. s authority is not acquainted with imatic influences of the State, if fects of the red scale show any- It is contended that the red

that affects the trees at Marys- es a different variety from that affects the trees in the southern belts. Some of the best author- claim that there is no difference, he effect on the tree is quite dif- In the north the trees are badly and look sick when not sprayed,

but do not die, while trees so affected in the south will succumb in two or three years. The appearance of the af- fected trees in both sections is the same to a certain degree.

The White Fly was so thick while in the winged stage in the trees at Marysville that they would cover a persons clothes as though sprinkled with cornmeal while walking among them.

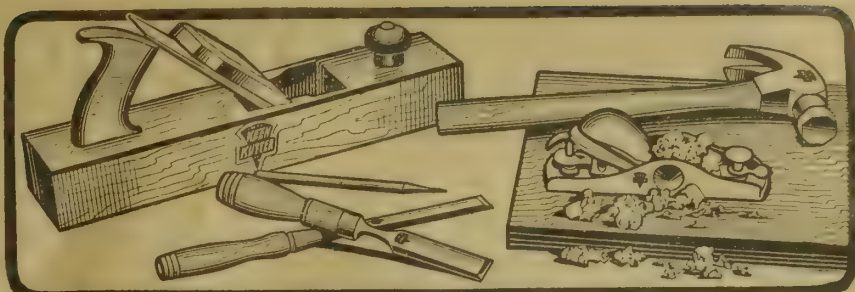
BORDER ROWS OF LEMONS.

We are often asked by strangers on the trains or public highways why lemon trees are so often along the border of orange groves and why these lemons are so frequently yellowish and sickly.

The first part of this question is answered by the fact that not many years ago the Mediterranean lemon occupied the markets and the Cali- fornia lemon was a side issue, only border rows were planted about the more profitable oranges. These rows indicate the approximate value of the two fruits at that time, many of the earlier plantings of lemons were even budded over to Navel and Valencia oranges. The border rows also served to protect the oranges from invaders, experience having shown that the number of oranges that would be stolen varied directly as their nearness to the public roads.

To remedy the impoverished condi- tion of these border trees, to make them bear fewer tree-colored lemons and a larger crop of more desirable ones is now one of the problems be- fore many of the growers, one that is vital to the appearance of the grove and to its productiveness under pres- ent market conditions. Having been planted at the outside of the groves they are poorly situated to receive proper fertilization and irrigation, and above all, proper cultivation, to bring about these results. If they receive water at all it is "held up" in improvised basins about them and more disastrous results generally follow than when they receive no water at all except what they ab- sorb from adjacent rows. I have in mind a number of these rows where every tree is affected with gum dis- ease as a result of this nefarious practice. The nearness of such rows to roads, water systems or boundary lines makes it difficult to give them the careful attention which the re- mainder of the grove receives. Earth thrown up by cultivating the others, or the embankments along water mains on roadways collects about them so that they are often standing in sodded soil which reaches far up the trunks. Thorough growers know well that these conditions are ruinous to the health of the trees and invari- ably produce a yellowish, sickly ap- pearance, impairing the bearing qual- ities and bringing about a scant pro- duction of small and tree-colored fruit, if not the more serious trouble of gum disease.

The remedy of this evil seems to lie in lowering the ground line where necessary, keeping the soil about them soft and well worked through- out the summer months, supplement- ing these, of course, with proper irri- gation and pruning and by humus and plant food in the soil. In short, make them healthy and valuable by the same methods that are applied to the remainder of the grove.—B. J. Jones.



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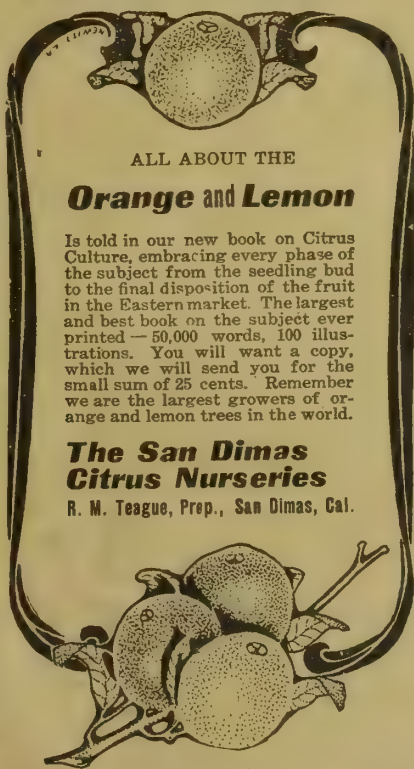
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ACQUIRED BY THE CULTIVATOR.

The Far Western Bee Keeper which had attained considerable circulation, but could not secure enough advertising clientage to justify its continuance, has suspended publication. Its subscription list passes into the hands of the California Cultivator which will carry out its subscription contracts.

The publisher makes the announcement of the suspension of the paper as follows:

Riverside, Cal., Aug. 14th, 1907.

To the subscribers and friends of the "Far Western Bee Keeper:" It is with sincere regret that I have to announce the suspension, at least for the time being, of the "F.W.B.K." as a separate publication.

The support necessary to keep the thing going was not given, and without it the climbing was too steep.

In accord with the arrangement made with the publishers of the "California Cultivator," that journal will instead be sent to the subscribers of the "F. W. B. K." to fill out the unexpired dates of the latter. In case, however, this should not be agreeable to some, I will promptly send back the money due on subscription if I am so informed or requested.

HENRY E. HORN.

FARMERS' INSTITUTES.

Conductor Neff announces Farmers' Institutes at:

San Miguel, Oct. 21; Santa Maria, Oct. 22-23; Lompoc, Oct. 25-26.

There will also be Institutes at Compton and La Habra at a date in September not yet fixed, probably during the week of September 16-21.

TIME TO GET BUSY.

The Cultivator regrets very much to see any contention arise between the entomological department of the State University and the State Horticultural Commission as to the manner of the work being done to eradicate the White Fly from the districts where it has found lodgment.

A serious condition confronts the fruit growers of this State and it is no time to engender a controversy, or to delay action in eradicating this terrible pest of citrus orchards. Instead of carping criticism there should be harmonious action and unabated vigilance, on the part of the constituted authorities and the fruit growers of the State, to the end that everything possible may be done at the earliest available date, to free California from the impending disaster which awaits it unless the White Fly is effectually stamped out.

It is hard to pull careless and indifferent fruit growers into line to do what should be done and quickly, when all are in harmony. Many of them do not realize the gravity of the situation and, of course, on general principles question the right, or at least the advisability, of the plan of the work which those in charge are following. In this case at Marysville it was with much sacrifice that people destroyed trees of many year's growth, and many of them of great beauty, for the sake of the interest of the State, but when in the face of the sacrifice those who are supposed to know, come in and contend that the work was inefficient and needless, it weakens the hands of those in power to cause such disinfection and future work will suffer by what has been done. The field men in charge of this work at Marysville may not have done their work perfectly. Doubtless, they all see where it could have been done differently and better. They are hardly human if such is not the case, and the easiest thing in this world is to show where some other man has failed. We, of course, are perfect and would have done perfectly the work that others have failed in.

But, in the face of the present calamity, this contention is not only humiliating, but the gravity is such that it is almost sickening. Every one in authority from this time on should uphold the hands of the State Horticultural Commission and the entomological department of the State University in their efforts to save the citrus industry of the State. Let us cut out all useless bickering and get down to strong, hard work to pull our growers together and do what some papers claim never has been done, the wiping out of any pest which has secured so strong a foothold as has the White Fly in California. Let practical hard-headed men be placed in charge of the work and backed by sufficient financial support, and not make this a time for placing inexperienced boys in the field for the sake of their education.

THE VEGETABLE GARDEN.

It seems very certain that we are not to have much reduction in the price of vegetables in California. The fact is, we are not raising enough to keep pace with our increasing population. Vegetables have been higher the past year than formerly and the outlook is not auspicious for any cheaper prices. We must have garden truck for we are not eating as freely of meat as we used to, and the question is, where are we to obtain vegetables for home use, as we do not seem to be raising enough to supply the market, for if we were, prices would not be so stiff. There is an increase in price of about 33 1-3 per cent over the prices of last year.

In this connection let the Cultivator suggest a vegetable garden for every home. Let the flower beds give place to standard vegetables for a year or so, or until we catch up with the "lost cause." Plant onions, peas, potatoes, squash, beets and lettuce where fall flowers now bloom, and after a while we shall be getting some of our vegetables from our own gardens.

The rapid increase in our population, and the cutting up of fields into suburban tracts has been the principal cause for the shortage in vegetables. There will doubtless be the same shortage in the future and consequent high prices as our population in California is growing faster than our vegetable production. All of which is enriching the grower of garden truck.

REPLACE BURNED TREES.

Forest fires are the plague of this State. Every season, about this time, fire sweeps over large areas of land denuding the mountains and foothills of trees, shrubbery and undergrowth, which act as water holders on the watershed, for the protection of cities and towns situated at their base. The annual spring floods, which bring destruction to thousands of homes in the lower-lying fertile valleys and are generally followed by epidemics of serious diseases, would in a great measure be prevented were the slopes covered by forest. Forests regulate the flow of streams, prevent erosion and turbidity and make waste areas beautiful and productive, besides insuring a source of pure water supply. Wherever natural reproduction cannot be depended upon to cover the denuded and burned-over lands of most of these watersheds, tree-planting operations must be undertaken. While the immediate object of this reforestation will be protective, timber crops will eventually be produced which will yield good profits on all such investments.

It is a pleasing fact that in many counties of this State the authorities are providing funds to replant trees burned last year and this. The time is short, only about four months, until the rains may be expected and when that period arrives every county which has suffered from fire ought to go to work to replace the trees burned. We shall find this the only sure way of controlling flood waters which annually do so much damage to our foothill towns.

BIG CROPS PREDICTED.

Statisticians have been collecting data to show what the crops in the wheat and corn sections of the Middle West are going to realize and the result is far more satisfactory than was anticipated a month ago.

While there will be a falling off from last year's returns there is still a healthy showing made in both the standard crops—wheat and corn. There will be no failure as some predicted, for about three-fourths of a corn crop will materialize and almost as large a per cent of wheat will be realized. Of course, higher prices will be received by producers, which will offset the shortage in the grain yield, and farmers will be practically as well off as with a bumper crop.

So we are not to go hungry, nor are we likely to see financial conditions among the farmers of the Middle West any more strenuous than in former years.

After all, the law of supply and demand will regulate the volume of next season's business and we shall go on as we always have, making money and enjoying it, if we so desire.

MORE BRAINS—SMALLER FARMS.

A farmer, writing in an exchange, tells how, by the use of his head with his hands he cleared \$3310 on thirty-nine acres last season. These are the items he gives: Potatoes, \$27; strawberries, \$81; blackberries, \$43; raspberries, \$2; apples, \$164; garden truck, \$302; fat hog, \$1114; pure bred stock hogs, \$22; eggs and poultry, \$218; pure bred poultry, \$112; three colts, \$284; butter, \$201; three bull calves, \$75; two heifers, \$60; home-dressed meat, \$72. Total, \$3310. Regarding his success he writes: "I have tried to use my head while I was trying to farm with my hands. I think if farmers would use their heads more they would be better off."

There is the secret of success, use the head more, save the wear of the body and live longer. Big farms are not necessary where brains are plenty.

We think we have some pretty big farms in California, and so we have, but we have nothing at all compared with some of the farms of Texas and Mexico. For instance, one man Don Luis Terraza, located in the State of Chihuahua, has a ranch which takes the Mexican Central train more than half a day to cross. Don Luis said to own more than 1,000,000 cattle, 100,000 horses, 700,000 sheep and 300,000 calves. More than 1000 cow boys are needed to look after his herds. He has a slaughter house of his own near Chihuahua city, at which more than 250,000 head of cattle and as many or more sheep and hogs are slaughtered every year. He owns his own refrigerator cars in which his packed meat are shipped all over that republic. Over 40,000 people dwell on this landlord's estate.

News of Country Life in the Golden West

Southern California

Northern California

AGRICULTURE.

beet harvest has begun at Oxnard.

Chino sugar campaign begins August 26th.

These are busy days at Buaro in Orange County with the hay balers.

Hard sugar factory began its season on sugar beets about the 1st.

Imperial Valley farmers are already turning the ground for the coming crops.

Is in Oxnard are reported rather but running to a high percentage of sugar.

Olive Milling Company of Orange County had an annual output of \$200,000.

Alamitos sugar factory has laid up a thousand acres for next year's output of beets.

A severe fire spread over the San Joaquin forest reserve last week burning much pine and cedar.

Highlands people are putting on a storm ditch to care for the coming season's storm water.

Imperial county has become a fact in the election of August 6th and Centro is to be the county seat.

Riverside poultry woman has a Minorca hen which produces an egg weighing one-quarter of a pound.

Fire in the San Jose hills between Santa Clara and Pomona destroyed much valuable pasture and some hay last week.

Over 500 eighty-pound milk cans or carloads are picked up daily between Buena Park and the city of Los Angeles.

The resurvey of the Imperial Valley will be begun in a short time. The survey will cover over one-half million acres.

The denatured alcohol plant which was wished for by Oxnard, Santa Clara and Ventura has finally been located at Ventura.

San Jacinto has been granted by the supervisors of that county a petition for the formation of the San Jacinto levee district.

First sugar of this season's manufacture was delivered in Los Angeles a week from the Pacific Sugar Co. at Visalia.

Coachella Valley promises an increasing acreage of cabbage and melons for next year. Planting will begin in about one month.

Madena sewer farm consisting largely of walnuts and alfalfa has proved very profitable to the city of Madena during the past year.

A number of Brawley farmers are making a new departure and entering into planting of potatoes which is claimed will prove a paying crop.

\$50,000 wheat sale is reported to Colton grain and Milling Company this week. This is the largest sale reported in Southern California this season.

The tangle in the survey of Imperial Valley lands will, it is feared, cause only settlers on 25 sections of State school lands great inconvenience, if not loss.

The cabbage growers of La Habra claim that H. E. Huntington is stepping into the breach in the marketing of cabbages and give the grower relief.

HORTICULTURE.

Covina is busily engaged fumigating orange trees.

Covina will be shipping Valencias until October 1st.

Redlands is contemplating improving its storm drain system.

Santa Ana apricot dryers are refusing to sell apricots, except at good full quotations.

Santa Ana orange growers are constructing a new sweat house for the curing of lemons.

The last car of oranges of the season has been shipped from the Redlands packing houses.

A planter at Redlands contemplates putting out 100,000 young Eucalyptus trees the coming season.

Thirty millions of dollars is the total income to Southern California from her orange crop this year.

Thousands of forest trees have been planted in the ranges back of San Bernardino during the past year.

The Brawley Cantaloupe Growers' Association averaged \$2.42 for standard crates for the season to its members.

Some citrus sections of Southern California are claiming that the white fly will not exist in their community.

The Supervisors of Riverside are making war upon the telephone and telegraph companies for "butchering" shade trees.

Fumigating has begun in Glendora and of her 3000 acres of oranges it is claimed one-half will be treated with cyanide gas this fall.

Dunn & Co. report dried fruit market "nothing doing." Eastern buyers maintaining that the Californians are holding everything too high.

Arnold V. Stubenrauch, expert pomologist working under the direction of G. Harold Powell, is investigating fruit conditions at Riverside.

The orange wrapping machine which is being installed in Redlands packing-house is said to be doing some exceptionally satisfactory work.

The Santa Fe will soon build a large pre-cooling plant between Colton and San Bernardino, which will have a capacity of one hundred cars daily.

Glendora citrus packing-house closed on Tuesday of last week. It shipped during the season 290,000 boxes of oranges of which 42,000 were Valencias.

Prof. Russel S. Woglum, special agent of the United States Bureau of Entomology, is in Southern California investigating fumigation, especially various qualities of cyanide.

"Nothing that has transpired in the last twenty-five years has been so fraught with good to the fruit growers as the pre-cooling process and plant," is the way the San Bernardino Sun Expresses it.

The annual meeting of the stock growers of the Covina Orange Growers' Association was held August 3d, at which the following were elected directors: L. L. Ratekin, H. M. Houser, A. R. Evans, B. L. King, Geo. B. Scofield, C. E. Daniels and C. C. Cady.

Another meeting of the dried fruit growers of Ventura county was held in Ventura last Saturday. The report was received from Judge Daly regarding the meeting at which Secy. Wilson spoke in San Francisco. Steps to take regarding fruit drying were also discussed.

AGRICULTURE.

A big creamery is promised at Chico.

Siskiyou county is promised a new creamery.

Mountain View is infested with chicken thieves.

Hop picking is in progress in all the hop centers.

Yolo county is also getting her share of the army worm.

Turlock Fair is to be held on September 18th to 20th.

Laton is shipping sugar beets to the factory at Visalia.

Farmers near Tulare are putting in new improved telephone lines.

"Hop pickers wanted" is the head of an ad in the Ukiah Times.

Another fierce mountain fire occurred last week in Tehachapi Pass.

Northern papers report the presence of much contagious abortion in dairies.

One thousand acres of the Gianella ranch near Nord have been planted to alfalfa.

California will produce 90,000 bales of hops this season against 110,000 last year.

The total wheat yield of the State will be twenty to thirty per cent short of last year.

San Jose city council is to place a 3.5 per cent fat requirement on milk sold in that city.

Tehama county will exhibit at the coming State Fair and compete for the big cash prizes.

The case of Texas fever which was reported from San Juan is found to be some other disease.

Stockton flour mills are short on wheat and are shipping in from Washington and Oregon.

San Joaquin county had a coyote drive recently, but a very small number of coyotes were rounded up.

A meeting of creamery men was held in Hotel Artesia at Hanford recently to discuss creamery matters.

The Alpine Evaporated Cream Company at Hollister is making preparations to sterilize and bottle goat's milk.

One hundred and five cows were barbed wire alive at the dairy barns of W. M. Luis near Navato in a fire last week.

"Rain-maker" Hatfield seems to be finding some of the "easy marks" in Oregon and the northern part of this State.

The fourth annual meeting of the California Live Stock Association will be held in Sacramento September 11th and 12th.

Santa Clara county is to have a U. S. Government Station for the study of insect life. Dudley Moutton will be in charge.

Enough timber has been grown in the hills of San Cruz county so that a lumber mill has been erected back of Watsonville.

A meeting of owners of land now under water in Tulare Lake was held in Hanford August 17th to discuss plans of reclamation.

Irrigators in the Modesto-Turlock ditches are up in arms over the effort of San Francisco to secure some of their water for that city.

HORTICULTURE.

Prune packing is in full swing at Healdsburg.

The East Side section of Turlock is longing for irrigation.

The Exeter Sun reports their fruit prospects the brightest ever.

Chico reported early dropping of prematurely ripened prunes.

Monterey county is planning for an exhibit at the State Fair.

Some of Pajaro valley apples are booked for shipment to Australia.

Winters cannery is busy putting up thirteen thousand cases of peaches.

Hanford has a fine bunch of fruit in jars ready for exhibit at the State Fair.

The Fresno Republican reports the raisin outlook one of the brightest ever.

Turlock's first carload of green grapes brought \$2900 or \$1.15 per crate.

Turlock Produce Company is shipping table grapes to Eastern markets by the car.

The Winters cannery is a busy place, employing at this time one hundred and fifty hands.

Work has begun on a new raisin packing plant to be a fine fire proof structure at Fresno.

An effort is being made to gather together fruit men in the Fruit Protective Association of California.

Mark Bassett, at Hanford, gathered from one hundred and forty Tuscan cling trees thirty tons of fine fruit.

A fruit grower of Kingsburg has begun suit against the Consolidated Canal Co. for nearly \$4,000 damage from seeping water.

Pear blight is still ravaging some sections. One orchard in Woodland is said to be so badly affected that it will be dug up.

Another experimenter at Fresno has determined that two pounds of sulphur is required to a thousand pounds of green peaches.

The fall crop of the deadly army worm is attacking the vineyards of San Joaquin county, and have already done much harm.

A manager of a big vineyard near Fresno says he would pay a bonus of ten to fifteen per cent for Chinese labor as against Japanese.

Prof. Wickson has been asked by Secretary Wilson to co-operate in determining the minimum amount of sulphur to be used in drying fruit.

Fruit growers at Lindsay are making strenuous efforts by insisting upon new orchard boxes being used so as to prevent the White Fly infection.

Disputes are common between dried fruit packers and buyers and the producers regarding the fulfilling of the contracts under the pure food ruling.

Forest rangers in the north are taking strong hands in the matter of subduing forest fires and anyone refusing to aid in fighting the fire is promptly arrested.

The management of the National Irrigation Congress show that information is received showing that special train loads of delegates are booked to arrive at that great congress to open September 2nd.

PER
2 BUSHEL
SACK

\$1.90

PER
2 BUSHEL
SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by all largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Hazardous feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Flicher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland.
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis and Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 505 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

Beef Scraps Raw Bone

GUARANTEED ANALYSIS:

Protein 65%
Fat 8%

Made of Cooked and Dried Livers, Lungs, Melts and Clean Scraps. No fertilizer ingredients in these Beef Scraps.

GUARANTEED ANALYSIS:

Protein 25%
Phosphates 45%

Made of Clean Beef Bones, surplus fat removed. Cleanest Raw Bone on the Market.

Pure, Clean Animal Matter Poultry Foods

WESTERN MEAT COMPANY SOUTH SAN FRANCISCO CALIFORNIA

Lincoln Avenue Poultry Yards

Capt. Mitchell's S. C. White Leghorns

Utility birds of the highest grade. They will average from 150 to 280 eggs per year. The eggs will average 2 ounces and over in weight, with smooth, white shells.

Just a few breeders left at half price. **Positively no culls.**

Carl C. Curtis, Owner

Ranch Mirasol

Lincoln Ave. and Ventura St., Pasadena, Cal.
ALTADENA CARS

A GOOD TONIC

ACME ROUP CURE CURES

FEED TO YOUNG CHICKS WILL KEEP THEM HEALTHY AND VIGOROUS; THE OLD FOWLS WILL MOULT QUICKER AND EASIER; PULLETS WILL LAY EARLIER AND LONGER

LEE'S EGG MAKER

IS THE BEST TONIC MADE

LEE'S LICE KILLER

IS GUARANTEED

HENRY ALBERS CO.

315 SO. MAIN, LOS ANGELES

Profit in the Poultry Yard

We solicit short articles of a practiced nature from the fancier and utility breeder, giving their experiences with poultry. All inquiries pertaining to feed management, disease and its prevention will be answered through these columns.

BREAKFAST CHICKENS.

WE note that some of the Eastern papers are advising the raising of "Breakfast Chickens" as a means of added profit to the poultry business. The scheme certainly "looks good" to the writer for breeders of Leghorns, California's favorite fowl. With the large hotels of San Francisco, San Jose, Santa Barbara, Los Angeles, Pasadena and San Diego as a probable market for this class of birds we believe it could be made a source of profit to the Leghorns and breeders of the other smaller varieties and serve as an outlet for their surplus cockerels, at an age and at a time when the poultry business is generally dull.

One thing that made us think of the "Breakfast Chickens" was a visit to a ranch of a breeder of White Leghorns where over 2000 laying hens are kept. That, of course, necessitates the hatching of many birds each season and the cockerels had to be disposed of early in order that the room might be used for the proper care and development of the pullets. We asked at what age and at what price the cockerels were sold and found that they were sold when about the size of a quail and that they only brought about actual cost. But as it was one part of the business that could not be avoided it seemed necessary to handle this part of the business at cost, or even at a loss, that the profit might be made on the pullets.

In one of the Eastern papers a writer advises that the chickens be hatched in July or August and forced all that they would stand until they weigh about three-fourths to one pound, or, about the size of quail. At this size broiled and served on toast for breakfast, the same as quail. We quote the following from the Successful Poultry Journal:

"My idea is that for some poultry breeders that have the time to go to some good hotel or restaurant and get them to introduce breakfast chickens as a novelty, and I believe they would be quite a fad. Setting these hens the last of July or in August or September brings the chickens on at a time when we formerly had game, such as wild ducks, quail and prairie chicken, but game of all kinds is getting so scarce that it is time to get something to take its place.

"Breakfast chickens must be hatched from some small breed of fowl, such as the Leghorns or Hamburgs. I hatch out a few settings of White Leghorns every year now for my own use, and what I do not use myself have been able to sell at a good price to people whom I have told how to use them, and I think I would be able to work up a good paying business if I had the time.

Of course, you might say that they could or would use these chickens all the year, and so they might, and they could also be served for dinner or supper the same as quail, but I think if breeders would make an effort to put them on the market in September, October and November, and make the chickens good, the public would in a short time expect

them in season the same as they turkeys on Thanksgiving. The chickens should be marketed three-quarters to one pound weight, as they get too heavy to be as one order when they weight in and a person eating one has the satisfaction of choosing the part like best, and they are not too large for any one with an ordinary appetite to eat a whole one. I do not think they should be sold by the pound but by the dozen, the same as game. I was able to sell them last fall \$4.00 per dozen, and they are young that there is a good profit in them at that price. I may be more fortunate than some in living so close to Chicago and having private customers that are willing to take them at the price.

"Of course, my idea may not be worth anything, but those breakfast chickens do appeal to me, especially when they are before me on the table, and I think they would to the general public if they knew about them. We called them "Mock Quail," which I think would make a good name for them. If any one saw a nice bunch of Brown Leghorns hanging up before a market or displayed in a restaurant, the same as game, I believe they would want to try an order.

"They can be served in different ways. My mother used to stuff and bake them for dinner, and it is quite a pleasure to carve a chicken and able to eat it. It also makes the happy, as he does not have to do carving for the whole company. I think this would make the small breeds of fowls more popular and fanciers would be able to realize more money for chickens if they could be placed before the public in this manner.

"We have heard of milk-fed chickens, but all of us do not know to what a great extent the demand for them has increased; it is something enormous, and has been accomplished by advertising, and by one firm in Chicago, and there are so many poultry breeders that if every one will do a little I think it would amount to more than milk-fed 'ads' by a firm.

"Any kind of a chicken that weighs one-half to one pound will do; that is, the small culls that are sorted out of chickens shipped to market. These breakfast chickens must be carefully fed and made good and then they will fill the bill and bring the price the same as yearling cattle or baby beef, as it is called, the live stock business.

"There is no salesman that can sell a common grass Texas steer or prime corn-fed yearlings; the butcher in the market can not palm it off for anyone can tell the difference and so can anyone tell a prize chicken handled the way I suggest from a common cull, and you can also tell the difference when it is placed before you on the table."

We believe if some enterprising poultrymen would take hold of this and give it a thorough test, they will find a ready market, not only in the fall but the entire year.

Beef, Blood and Bone Will Make Your Hens Lay

This is not a medicine but a high grade nitrogenous food. Write for free booklet, "How to make Hens Lay." Our Poultry Foods are sold by all local dealers and manufactured solely by

The Pacific Guano and Fertilizer Co.

Also Pioneer Manufacturers of High Grade Indiana and Yolo Sts., San Francisco, Cal. Fertilizers. Write for our free booklet, "Farmer's Friend." Valuable to all farmers and ranchers.

AROUND THE YARDS.

Separate the sexes before the cock-
begin to annoy the pullets.

atching beds of litter, chaff,
s, etc., will take the place of
where birds must be confined.

believe in teaching the chicks
most when eight to twelve weeks
ge. When allowed to roost on
and in brood coops it is hard to
them clean, and still harder to
them from crowing. If wide
s three to four inches wide are
you need not fear crooked breast

heat and bran make white flesh,
corn yellow.

more crowded your poultry
greater the necessity for cleanli-

th and lice are the young tur-
s worst enemies.

ne hen is truly a profit payer. She
capable of producing from 150 to
eggs in a year. If these eggs were
hatched and the chicks sold at the
of six months, they would yield
turn of no less than 900 per cent.

ne of the differences between chol-
and indigestion or bowel disease
hat great thirst is present with
era and the birds seldom live
thirty-six hours. A strong tea
white oak bark will sometimes re-
them, but the hatchet is often
er.

ravel has been denominated
ns' teeth." Gravel is always
ad in the gizzard of a fowl where
performs the operation of thor-
ubly grinding food prior to its en-
ing the bowels. Fowls must have
vel, or all the grain they eat will
be properly digested, which is
to result disastrously sooner or
r. Give your fowls a plentiful
ply.

the Australian egg-laying con-
which closed last April, two
s of White Wyandottes, known as
"White-all" strain and one pen
the Victorian competition ending
same date, made a record for the
of 228½ eggs per hen. This cer-
ly is a good record and one of
ch Mr. Huges should be proud.

Mediterraneans for Eggs.

ve want to start an egg ranch.
Which breed would you suggest, the
merican or Mediterranean?

When egg-production alone is de-
sired, the Mediterranean varieties,
especially the Leghorns, take the
lead in California.

have a valuable rooster which is
rapidly becoming blind; a white,
easy growth first appeared in one
pen, and now has attacked the other.
Ralph Henderson, Elsinore.

Our bird has one form of roup;
very often when the nostrils are
closed this substance forms in the
nostrils. Treatment: Clean out nostrils
by pressing thumb nail against side
of forcing out puss; then wash head
with Germozone, full strength, or
eucalyptus oil each morning and
continue until head is better.

Limber Neck.

ve have recently lost several hens
to us, a new trouble. Patient lets
head fall forward to the ground;
seems to lack power to raise it.
Takes no interest in anything and
dies in six to twelve hours after first
noticed. Would the feeding of too

much fresh meat raw or cooked
cause such trouble?—Mrs. E. C. C.,
Buena Park.

Your birds have limber neck caused
by eating decayed meat or maggots.
It is also caused by hot weather, but
we believe if you will look closely
you can locate the trouble. Treat-
ment: Put in drinking water one
teaspoonful of hyposulphite of soda
to each quart of water. When trou-
ble is first discovered give one asa-
foetida pill the size of a pea.

Roosting in Trees.

Kindly inform me through the col-
umns of your valuable paper whether
it is advisable to allow chickens to
roost in orange trees, or would they
be more liable to contract colds and
roup during the rainy season.

Where can I procure the book
entitled "Poultry West of the Rock-
ies?"—J. D. M., Ontario.

We would not object to having our
chickens roost in orange trees until
the rainy season begins, but after the
cool days and wet weather set in they
will do better in the houses. We have
never considered an orange or lemon
grove an ideal place for poultry, es-
pecially in winter, as there is too
much shade, and after the oranges be-
gin to drop the chickens will eat too
much of the soured and fermented
fruit. We have noticed that if we
have a sick bird, especially one with
cold or roup, it will stand around in
the shade when it should be in the
sunshine.

You can get the book, "Poultry
West of the Rockies," of Henry Al-
bers Co., of Los Angeles.

AN ENGLISH BREEDER ON PROF-
ITABLE TURKEYS.

I have this season experimented
with the Bronze variety, putting a
setting in my Cyphers incubator, and
when they had been in a week I
added sufficient warmed hen's eggs
to fill the 60-egg machine. I kept
the temperature steadily at 103 de-
grees during the entire hatch and in
due time hatched nine out of twelve
turkeys. When these were dry I
placed them with the chicks in a
warm brooder, placing a little dry
chick feed and grit in pans in the
warm chamber and leaving them to
themselves for twenty-four hours. I
then got them into the run of the
brooder and have used ground oats,
barley meal middlings and meat meal
mixed to a crumbly state four times
a day, occasionally giving them well
boiled dry chick feed and also rice as
a change with oatmeal. This brooder
is enclosed in a grass run about forty
feet square. They are now four
weeks old. I lost one the second
day which was weakly at the start.
They seem to be doing very well so
far and feed with the chickens quite
contentedly. I am informed by Mr.
George of Marksdanes, Bruton, Som-
erset, England, that he always
hatches all his turkeys in incubators,
rearing them in brooders and finding
no difficulty in rearing them what-
ever.

This may interest some of your
readers and is certainly worth a
trial. I also give them once a week
a small dose of cholera cure, as they
are rather liable to scours reared in
this way. Plenty of grit and clean
water of course. They appear per-
fectly strong and are growing well.
The critical time will be when they
shoot the red at about eight weeks
old I suppose, but I have every hope
of rearing them.—Poultry.

Cream Separators, all sizes, all prices.
O. J. Weber Co., 555-557 S. Los Angeles
street, Los Angeles.

Egg-More

for

Early Molt

Don't let your hens molt for months. Don't let them get all run down
and out of condition. They need to be fed a scientifically balanced ra-
tion during this trying season. EGG-MORE is just the thing to mix with good
grains to make the same a rightly balanced ration. Many so-called "poultry
foods" and "egg makers" are nothing but stimulants and not advisable to be
fed regularly. If your poultry are already in a run down condition,

West Coast Poultry Tonic

is what they need for a short time; that is just what its name implies. It is
very easy to mix a lot of ingredients, much of it a little better than refuse and
call it egg food. And even if good foods are mixed it doesn't make an egg
food unless the ingredients are adapted to the requirements. Some mixers of
"egg food" seem to think that it is the shell alone that is to be made, forget-
ting that the hen has no use for the shell until she has made the egg.

Egg-More

is a concentrated food, very rich in protein, and a small quantity mixed with
ground grains, or even with bran, is just what is needed to make her molt
quickly and then lay lots of eggs. It is made of just such first-class materials
and in such proportions as has been proven by long practical experience to
serve this purpose, and at the same time to build up her system and keep her
in the best of health. When a small quantity is mixed with good grains, or
bran, as directed in each package, it can be fed either as a mash or as dry
feed. The hens like it, they eat it, there is no waste; it makes the cheapest
egg food that can be made, especially if you can buy your grains at home
cheaper than to ship them in.

EGG-MORE is put up in 4-lb. packages at 35c; 25-lb. pails, \$2.00; 50-lb.
sacks, \$3.75; and is for sale by many dealers. If yours doesn't keep it, or will
not get it for you, we will deliver a pail or sack, freight prepaid by us.

Manufactured by the

West Coast Stock Food Co.

818 San Fernando St. (Through to Alameda) Los Angeles, Cal.

A. C. W.

Stands for all that is Good in

POULTRY FOOD

Either Mixed or Raw Material

AGRICULTURAL
CHEMICAL
WORKS901-907 Macy St.
Los Angeles, Cal.

Established 14 Years

You Can't Escape

the moulting season, but you can assist nature by feeding

Excelsior Moulting Food

Your hens will moult sometime next fall or winter if fed their usual rations
but it is money in your pocket to have it over before then. The difference be-
tween success and failure in the poultry business is in producing eggs when the
price is high. Get your hens to laying early and be sure of a good supply when
the price is 50 cents per dozen.

Excelsior Mills, 242 Central Ave., Los Angeles

Feed Excelsior Moulting Food—Control the Moul

THE WHITE WYANDOTTES THAT WIN
AND LAY
\$15.00 and Up Per DozenLakenvelders, per pair, \$8.00; trio, \$10.00.
Mammoth Bronze Turkeys Reasonable.

Mrs. C. D. Hubbard, Box 282, San Fernando, Cal.

Bemis Plymouth Rocks
Barred and White

Prizes Won at Alameda County Poultry Association Show, Oakland, 1907—22 Regular Prizes
and 3 Silver Cups. Can furnish best birds and eggs at reasonable prices. No incubators lots furnished

Mrs. Florence E. Bemis, 1757 19th Ave., Oakland, Cal.

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stock and price list mailed free on application.

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Bees and Their Care

GENTLE BEES.

PROFESSOR H. A. Surface of the Pennsylvania College says that "there are points in favor of this new imported Caucasian bee, one of which is the tendency to cling to the comb when the frames are lifted from the hives, not flying around in an excited manner as do the bees of some other races. It is a remarkably gentle bee, more so than the most gentle Italian, and is very prolific. Because of its marked gentleness the Caucasian bee is often known as the "stingless" bee. This is not because they are not provided with a sting, but because they do not often care to use that weapon. They are fairly good honey gatherers, and will prove to be valuable in the development of an ideal race or strain of bees.

The Cyprian bee, although far from cross in disposition, is more of a hustler in gathering honey from flowers when there is not an abundance of vegetation in bloom. Therefore, in my opinion the ideal bee for both gentleness and honey producing will be a cross between a Caucasian drone and the Cyprian queen.

It is said by such experts as Prof. Benton of the United States apiary that the bees inherit from the drones (males) the gentleness and from the queens (females) the energy. This would make the Caucasian-Cyprian cross as ideal a bee as can be produced. The disposition of bees, however, depends to a great extent on their keeper and the way they are handled. If the bees are jarred, or where the hive is opened without smoke, as a rule they are liable to become quite cross. Whenever a hive is examined a puff of smoke should be blown into it and they should not be jarred or banged any more than is necessary. Beekeeping is not attended, however, with as much danger as many people suppose if it is done with precaution.

A GOOD WAX PRESS.

To use a wash boiler to melt wax in is sure to raise trouble between a man and his housekeeper; for a woman who attempts to wash, using a boiler that has previously been used for wax melting, is sure to lose her temper if not her religion, for it is no easy job to clean one after being once coated with wax and slumgum; and why use a boiler at all when a square box of galvanized iron is just as cheap, much better, and can be used on a brick furnace outdoors to good advantage, while a boiler could not? About 30 bricks and two joints of stovepipe will make the furnace; and when not in use all can be packed away in some shed out of sight. Not over half an hour is time enough to make it complete; and any one with a town lot has room enough, and there is no mussing of floors to vex the good woman; and the square tank has advantages over the round one of being easier to skim—that is, if you use a square dipper, as you ought to. If you ever used a square one you could readily see the advantage of it. A five-cent cake tin is better than a round dipper.

I have two small tanks—one 15x15 inches and 15 inches deep; the other 18 inches in dimensions, writes C. A. Hatch, in Bee Culture. A 14-inch one made of heavy galvanized iron would last a lifetime if cared for. A dipper should be about 6x6x4 deep, and have a flat handle, rather short

and bent to a hook, so as to hang on the edge of the tank inside when not in use.

Another mistake that is often made is putting too much comb in the boiler at once. Just enough for one pressing at a time is enough, and when you are pressing it out your helper puts in another batch, fires up, and attends to the melted wax; or, if you are working alone, it will do no harm to let the press stand while you fill up for the next pressing.

Dipping the follower and rim into the boiler is just as well as to pour that painful of water into the press and much less bother.

I usually put in about four gallons of water and slumgum at each pressing; but this means an indefinite quantity, for I may get more water than you do. Plenty of hot water is my motto, for beeswax seems to like to run out with water when it will hardly move with pressure. I use an old square five-gallon can to catch the wax in. When the wax is deep enough to warrant it, I skim it off (with a square dipper, mind you) into small tins to cool. These are kept covered as much as possible. With this method the water can be returned to the boiler before it gets much cooler and the wax is ready for market with a little scraping at the bottom; and even this can be largely avoided by extra care in skimming when putting into the cooling tins. The wax may need to be washed, as the water in the boiler gets rather "rich" in coloring before many hours' run.

There is one point that should be impressed on all beekeepers—I, e., that all heating and boiling of wax after being once melted is to its detriment; also that iron rust turns wax black.

BEE KEEPING IN CALIFORNIA.

What can one hope to gain net per colony, in case of intelligent management? I am glad that he added the last, as very much depends here, as elsewhere, upon the energy and skill that one gives to the business, writes Professor A. J. Cook, in American Bee Journal. I know of an able beekeeper who has kept bees here many years and his record is about 75 pounds of honey per colony per year. As he has averaged about six cents per pound for his honey, it is easy to compute what he has secured. Some years the profits are very great—greater than anywhere else I know of in the world. But over against this we must remember that not infrequently because of slight rainfall there are no profits at all; and sometimes such seasons are not single, though I have never known but two failures to come in succession and one of these was not absolute. The worst is not yet, though, for in these seasons of greatest honey dearth, the bees must be fed, and so there is not only no gain, but absolute loss.

They asked if it would be better to engage with some beekeeper for a year and take what he might be able to get for his service, or buy a few colonies and commence at once "on his own hook." Without doubt he would learn faster by the first method and perhaps would be as rich at the end of the year, but there is great pleasure in working the thing out for one's self, and by thoroughly reading the best bee books and taking one or

two good bee papers he might hope, certainly after visiting one or two good apiaries, and observing carefully the work of the bees—to get on without making any very serious blunder, especially if he had some beekeeper near by with whom to counsel in case required.

These friends wished also to know how many colonies I should advise them to purchase in case they concluded to go ahead at once. I answered ten, and certainly not more than twenty.

I was also asked to give the probable expense, kind of hive and location that I would advise. I replied that I had known good colonies in desirable hives to be purchased at \$1.00 each, and that I did not think that one ought to be obliged to pay much more than that for good, strong colonies. I urged that he take special pains to see that there was no fowl brood in the colonies purchased.

In case one works only for increase the other expenses need not be great for the first year. A good smoker, bee hat and other necessary implements are not expensive and, besides these, there would be little else to the hives.

I also strongly recommend that one adopt the Langstroth hive, with Langstroth frame; not that they were necessarily any better than some of the other hives, but they are doubtless as good, and being more used have more to recommend them than any other hive that I know of.

As to location, I made only two points. One is, care to be in the midst of good forage; and, second, be as far from other beekeepers as possible, though this last is not so important in California as in other sections. When we have good honey seasons there is so much nectar that we find bees will do well even though somewhat crowded. I should wish to have an abundance of sage (black and white,) and should like to have these not only on the plains and mesas, but should like to have them extend well up into the canyons, in the honey season, always long before the might be further extended. It is a very desirable to be in the region of large orchards, for the nectar from such source is always valuable stimulation if not for market.

BEES HAVE EARS.

Some scientists assert that bees have no ears and do not hear, but person has handled bees for any length of time without being thoroughly convinced that bees can and do hear readily. Bees have certain signs which seem to be understood quickly by every bee within a hive. The hum of fear, that of anger and of satisfaction seems to be fully understood by every bee in the hive. Did you ever notice at swarming time that when the queen has gone into the hive the quick hum of satisfaction is up and how the bees fall over another in their haste to enter the hive? During times of great fear starvation the deep, deep uttered by the queens seems to be understood by every bee.

A DOLLAR A MONTH.

The Cultivator has no thought of raising its subscription price to \$1.00 per year, but here is one subscriber estimate given when he remitted: cannot do without the Cultivator even if it should cost \$1.00 per month." J. H. Harman, Chino.

General Agriculture

PASPALUM GRASS.

Harrison writes the Cultivator, from New South Wales, regarding Paspalum grass, which is of great value to stockmen in Australia. Of the grass he says: "This celebrated grass Mr. W. S. Campbell, Director of Agriculture, N. S. W., says: 'This grass has attained remarkable prominence, and so many people have become acquainted with its great value, and so much has been written about its merits, that nothing one can write upon the subject seems superfluous.' He also says, speaking of its introduction: 'Gradually the farmers took to planting it, as its excellent qualities became known the demand for seed and plants became enormous, and its name has become familiar to every man, woman and child, not only in the Diamond and Tweed River districts, but all over the coastal districts of the State.'"

Favorite Grass.
This is the favorite grass with the stock owners here, and to the dairy-keepers especially has proved a veritable mine. It produces an immense amount of succulent herbage, which is highly relished by all stock; grows from five feet to ten feet high; bears a large quantity of seed, which can easily be disposed of at a good price, and thrives well almost anywhere. No other grass can equal it for rapid growth, quantity and quality of herbage, and its adaptability to almost any soil or climate; and the person who introduces this grass into his district proves a benefactor, not only to the district in which he resides, but the country generally. Any land on which Paspalum is established is worth from \$50 to \$100 per acre in Australia.

This is what Mr. C. F. Julius, Secretary of the Dairymen's Union, Bucca Creek, in the Government Agricultural Station, N.S.W.: "This remarkable grass is quickly coming to the fore as a grass peculiarly adapted to our uncertain climate. Being a deep-rooted plant, its properties as a drought-resister alone proclaim it invaluable; while throughout the warmer seasons of the year it surpasses all other grasses in the rapidity and abundance of its growth, the severest of our frosts, although retarding its growth, do not subdue its evergreen state. It is most efficacious in subduing and preventing the growth of all noxious weeds. By the assistance of Paspalum many lands hitherto deemed worthless in their rocky, hilly or swampy situations, have been triumphantly reclaimed."

Use of Pastures.
The Agricultural (Govt.) Gazette of New South Wales says: "Throughout the length and breadth of the northern dairy districts Paspalum grass is regarded as the best of pasture grasses, and at present it has, no doubt, every claim to the position."

Mr. H. Munsey, of Dundas (N.S.W.) writes: "Paspalum is the grass that has revolutionized the dairying industry in the north coast. Scores of instances can be quoted showing that the capacity of farms has been doubled and tripled, and it forms a dense mass of succulent forage. Having spent over a month going through farms where this grass has been sown, I can safely recommend its planting on a large scale. I have seen farms where 100 head of dairy cattle have been kept all the year round on less than 100 acres of

land, giving splendid returns in milk and butter. This grass, if enclosed for a short period during autumn, will provide a good supply of feed for the winter. Its value to the State cannot be expressed in thousands of pounds."

Mr. Brandon, the well-known manager of the North Coast Co-operative Butter factory, says of Paspalum: "I do not know what this district would have done without it, especially during the very dry weather we experienced some time back. With regard to the quality of the butter manufactured from it, it is all that could be desired." This factory, which was established about ten years ago, and is owned and controlled by our farmers, for the month of October last paid away to its suppliers for cream and pork the immense sum of \$225,000, or at the rate of about \$2,500,000 per annum. Some of our dairy farmers for this month received checks for from \$500 to \$1800 for cream and pork. Nearly all the cows from which the milk is obtained for this factory are grazed on Paspalum and clover, and very few of them are either hand-fed or housed during the winter months.

Brings Prosperity.

Mr. Campbell, Director of Agriculture, after his recent visit to these districts, also says: "I have returned greatly impressed with the prosperity of the people in that part of the country. The Paspalum grass grows with extraordinary luxuriance, and so high is the growth that if it stood up straight, the stock would be quite lost in it. As it is, though bending over with its own weight, in many places, only the backs of the cattle are visible. Apparently, the cattle are unable to eat it down, and I believe that it would sustain five or six head of stock per acre for several months. Farmers are doing wonderfully well, and land is bringing high figures."

This grass has been known to yield, at the Wollongbar Experimental Farm, on cultivated ground, when four months old, twenty-two tons of green fodder, and several successive cuttings of over thirteen tons per acre, within the year. On fairly rich soil, where there is a good rainfall, this grass should easily sustain one bullock or ten sheep per acre, and from fifty to 100 pigs could be kept in good condition on a few acres, with the addition of some skim milk or other feed. All persons who have used it for this purpose speak very highly of it.

WHAT TO DO NOW.

During the dull time it is good thing to give the farm buildings a thorough overhauling and have them repainted and the premises cleaned up. May as well make the best of situation. A little paint does not cost very much and it may save much in after years. Give the wagons and farming tools a going over, and while your hand is in, try it on the buggy. It may not look as well as if done by a professional, but the preserving of the vehicle is the main consideration. Fix up fences and renovate things generally.

The suit of the heirs of the J. H. Glide estate has been successful and the sons of J. H. Glide will now inherit this magnificent property. Mr. Glide was the winner of so many premiums on his fine shorthorn cattle at many of our recent State fairs.

More Grain, Less Chaff

will result if you use a fertilizer that contains plenty of

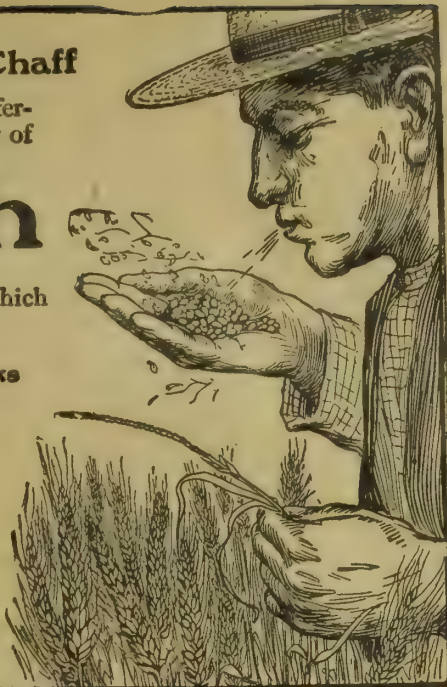
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It is the plant-food without which good grain cannot be grown.

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Popcorn Seven Weeks Old at Corcoran, Kings County, Cal.

The value of popcorn as a commercial crop has been demonstrated in the region around Corcoran, where as high as 80 bushels to the acre has been raised. One man realized \$120 from an acre and a fraction of popcorn. In connection with poultry a few acres of popcorn is a paying proposition in the Corcoran district.

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Stands up to its work, no taking off wheels.

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COW TALK

QUESTION—What is a cow?

ANSWER—As I said before, I am built square so that I can hold lots of food.

The Cow Talks: I have also been called a "milk machine." To a nail machine they feed wire and get nails. So they expect to feed me wire-y dusty, musty hay and get milk. Nothing in it. Don't expect to get wire nails from a nail machine without feeding it wire, nor milk from this milk machine when fed on wire-y hay, mostly trodden under my feet. I'll tell you what to feed me—fill me up on Kow-Breakfast-Food when I come in from the pasture.

Kow Mathematics: Then I'll give you 32 cents' worth of milk for a cent's worth of pulp. Besides, I figure I'll get fat at the rate of about one pound a day.

P. S.—You can get fresh Kow-Breakfast-Food at 50 cents per ton from the chute at

Los Alamitos Sugar Factory, Los Alamitos, Cal.

SUGAR BEET PULP KOW-BREAKFAST-FOOD FOR COWS



**A
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A 20TH CENTURY BABCOCK TESTER and an **IDEAL MILK SCALE** will indicate just what each cow is doing, and inform you what returns you should receive from the creamery. Some cows are profitable, others are not. Get rid of the poor ones and buy good ones. Ask for catalogues A and B.

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Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Green Manure Crops.

What is the best green crop to plant in orange orchard for manure? When is best time to plant and how do you plant it? How do you analyze soil to find what is lacking? Is it best to inoculate the seed with bacteria to produce nodules? Where is bacteria procured and how is the seed inoculated with it? G. W. Rockefeller, Santa Ana.

Winter vetch is the best green crop as far as we know for your purpose.

When you give your September irrigation, plant as soon as you can get on the ground and furrow out for the next irrigation at the same time. Plant about forty pounds per acre with a drill.

The process of analyzing soils is long and intricate and cannot be done accurately without much practice and expensive apparatus. Take your soil samples according to printed instruction, which will be sent you on application to the Director of the Agricultural Department of the State University. Samples sent otherwise will not be accepted.

Mix with your seed a small amount of soil in which vetch grew last year. A quart to a sack of seed will do the work.—J. W. M.

Asparagus Quotations.

What is the reason that the asparagus quotations in the market were all this year much higher than in other years? The large asparagus fields in the North by the Sacramento river were flooded and I would like to know if the asparagus plants are rotted or the crop is lost, or is the consumption more than other years? H. H., Long Beach.

Doubtless a little of both. That is, all fruits are scarce this year, hence greater consumption along vegetable lines. Likewise, the production was very greatly reduced—a total failure in some cases along the Sacramento and San Joaquin rivers. This alone is sufficient to cause a great difference in markets.

The permanent injury to those fields is now found to be much less than at first anticipated so that later there will doubtless be a greatly increased production from those great fields.

Oil Meal.

Will you kindly answer the following question: What benefit is there to be derived from feeding oil cake meal to a milk cow and how much should be given at a feed? W. H. M., Pasadena.

Oil cake is added to feed of cows that have great capacity of milk or butter production to give them more concentrated food. It is really cow beefsteak. Now if you desire to feed it to a cow begin with a fresh cow by adding a tablespoonful to her grain ration and increase to half a pound twice a day. This is the most it is well to feed as it is too rich. When cows have been enfeebled with long illness it is also fed to bring them into strength and health rapidly. The cows going to a State fair are also fed on it as it gives them "mellow handling" and a soft skin. In other words, it puts them in high condition, and that is the quality that often wins out in the hands of the judges. M. E. S.

First Cutting of Alfalfa.

Kindly inform me how soon alfalfa is cut after planting in October in the vicinity of New Merced Co.—Mrs. P.

The early part of October is usually too early to sow alfalfa seed unless the land is very damp and dampness keeps near the surface. A better stand will be had if after the danger of hot dry winds past, which will be about the last of October or the first of November. The first cutting of the alfalfa should be done when the plants to a height of six inches. This, of course, will not make a hay crop, is left on the ground, but it serves to thicken the stand by forcing out branches and also destroys the weeds that may have sprung up. It is an advantage to cut a second time when there are many weeds. A so-called "nurse crop" of barley or grain is not beneficial, but rather the contrary, as it takes the moisture that should go to the alfalfa and sometimes chokes out the alfalfa.

After the early cuttings for purpose of thickening the alfalfa and getting clear of the weeds it is not necessary to do any work in the field except to keep it damp in a growing condition until the crop is ready to cut. This will be when the blossoms are beginning to show and will likely be about the first of April, depending on the warmth of the spring. After this a crop may be cut every 30 to 40 days until the weather comes again.—J. B. N.

Sour Sap.

I send you by post today plum branches. The leaves on out that far in spring and turn red and wither and remain so summer without any growth, except an occasional branch that grows which seems healthy. Kindly inform me through Cultivator of the trouble and remedy.—E. J. Thorson, Fresno.

The trouble with plum trees referred to in your correspondent's letter is apparently of the nature "Sour Sap," or failure of root action due to too much soil water and temperature after the tree starts to leave out. Plums, peaches and other stone fruits are often affected in this way. They start to leave out and then, when root action is stopped by a cold rain or rise of soil water, vitality of the whole tree or of certain branches becomes injured and they are not able to come out properly. Your correspondent's cation at Fresno leads one to suspect that his trees may be affected by common trouble in that region due to rising of the water level in the soil.

We advise cutting back all trees affected in this manner, hoping to get a new and better growth. If the soil water condition is decidedly wrong nothing but drainage will afford permanent relief.—Ralph Smith.

Citrus Paper.

Is there any paper printed in California devoted entirely to citrus culture?—J. B. K., Corona.

There is no such paper.

Hanford cannery is busy with peaches.



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n to Purchase.

ase answer through the Cultiva-
e following questions: I rented
ce of land from the owner and
two poultry houses thereon with
us pens costing me in the neigh-
od of \$75. The owner of the
told me I should have the first
to purchase the land if he con-
d to sell. He has since sold the
without giving me the right to
ase. He also refused to pay me
he improvements I have made.
reover from the owner of the
the improvements I have put on
renting? I would not have
the improvements had I not ex-
t to purchase the land at the end
tenant lease.—G. W. H.

less an agreement to sell land is
iting, or a memorandum thereof
d by the owner, the contract is
binding. You probably can re-
the improvements.

Paint.

ill you state in the Cultivator if
is a national law or State law
ing the imposition on paints? I
at a keg labeled "Pure White
and found it to be a gross imi-
n, the paint scaling off after be-
ut on the house. Can I recover
his deception?—G. B.

know of no national or State
on this particular subject. You
a right of action against some

s of Husband.

deeded my daughter ten
of land when she was married.
has since died. Her husband
is half of the property. There
no children. Is my son-in-law
in his contention?—D. B.

THE FLORIDA WHITE FLY.

There seems to be no longer any
doubt that the "Florida White Fly"
has invaded California. At least two
places have been mentioned in which
the terrible pest has been found—
Marysville and Bakersfield. An in-
dustry that is producing over \$30,-
000,000 a year in this State is seriously
threatened by this pest, and the most
heroic measures should be taken to
eradicate it. Prof. Woodworth of the
State University suggests that the
work of eradicating this pest should
be intrusted to the University ex-
perts in entomology, and that the
State appropriate the necessary funds
to carry on the work. With few ex-
ceptions, the horticultural commis-
sioners of the several counties in the
State received their appointments
either as rewards for political services
rendered or through the influences of
friends having "political pulls." But
few of them even today are suffici-
ently expert in the use of hydrocyanic
acid gas to insure success in fumi-
gation. Unfortunately for the welfare
of the great citrus industry, only in
rare instances have men with requi-
site knowledge of entomology been ap-
pointed as county horticultural com-
missioners.

Secretary Kendall, of the Citrus
Protective League, in his report on
the "White Fly," says: "Now that two
localities in this State are infested,
the first great duty is to find if the
pest has a habitat elsewhere within
our borders, and every available ex-
pert and competent inspector should
at once begin the search. Don't wait
to be urged to assist in this work.
Its importance cannot be overesti-
mated. If the county in which you
live has no ordinance of quarantine
against Florida trees and shrubs, see
to it that one is passed. If your coun-
ty horticultural commission is ineffi-
cient, don't rest until it is organized
for the best interest of the fruit in-
dustry, which has grown to \$30,000,-
000 a year, and must not be destroyed
by inattention or inefficiency."—S. A.
Conner, in Los Angeles Economist of
Sept. 5.

INTERNATIONAL LABOR SAVERS.

The passing of the horse, the mule,
the ox, as indispensable factors in the
operations of modern farming, is fore-
shadowed in the exhibit of the Inter-
national Harvester Company at the
Jamestown Exposition. Here is shown
a great variety of motors, stationary
and portable, by which great labor-
saving machines are operated, and for
performing many functions of the
horse, barn and field that have always
been associated with toil and drudgery
for both man and beast. By pressing a
button or turning a valve, the up-to-
date farmer can plow his land, harrow
it, sow his seed, cultivate, harvest and
thresh his crop, saw wood for his
kitchen, pump water for domestic or
irrigation purpose, cut ensilage, shell
and grind corn, separate cream, churn
butter, light his buildings by electric-
ity and do scores of other things that,
while saving labor and money, make
life pleasanter for himself and his
household. Power is now so easily and
inexpensively applied that the demand
for farm motors is as important as that
for the machinery equipment. The
question is not "will a gasoline motor
meet my needs," but "which will serve
my purpose?"

The gasoline has reached the prac-
tical stage; it is now a necessity. The
economy of its direct power is un-
doubted. Motors shown in the exhibit
have been subjected to all tests, and
are found ever ready and effective at
a minimum of expense. They require
no engineer, no fireman, no far-fetched
water supply. They do require a sup-
ply of gasoline—less than a pint per
hour per horse power. A ten-horse
power motor running at full strength
consumes about a gallon an hour. No
special operator is needed. When
ready, the farmer turns a valve, gives
the fly wheel a revolution or two by
hand, and is then free to attend to other
work; the motor will run itself till he
closes the valve again.

There is shown in this exhibit a ver-
tical motor, mounted on a substantial
truck, adapted to use on rough roads,
that may be drawn by hand or by
horse to any part of the fields or wood
lot. To it is belted a circular saw,
whereby limbs and trunks of trees can
be readily converted into firewood on
the spot where the tree is felled. By a
simple appliance the saw may be made
to do the work of felling the tree. This
motor can also be attached to a
thresher in the field or made to cut and
then haul ice from the river or pond
for storage against the summer. It
can be wheeled to the dairy and made
to operate the churn or separator. Its
uses are manifold and obvious. Its
first cost is small, and its operation in-
expensive. The average running ex-
pense may be figured close to one cent
per hour per horse power.

So with the stationary motors. By it
can heavy threshing or pumping ma-
chinery be run as though by the
strength of a child. A two-horse power
will operate a dynamo that will supply
current for 20 electric lights of 16-can-
dle power each—more than are ordi-
narily needed at one time in any farm-
er's house.

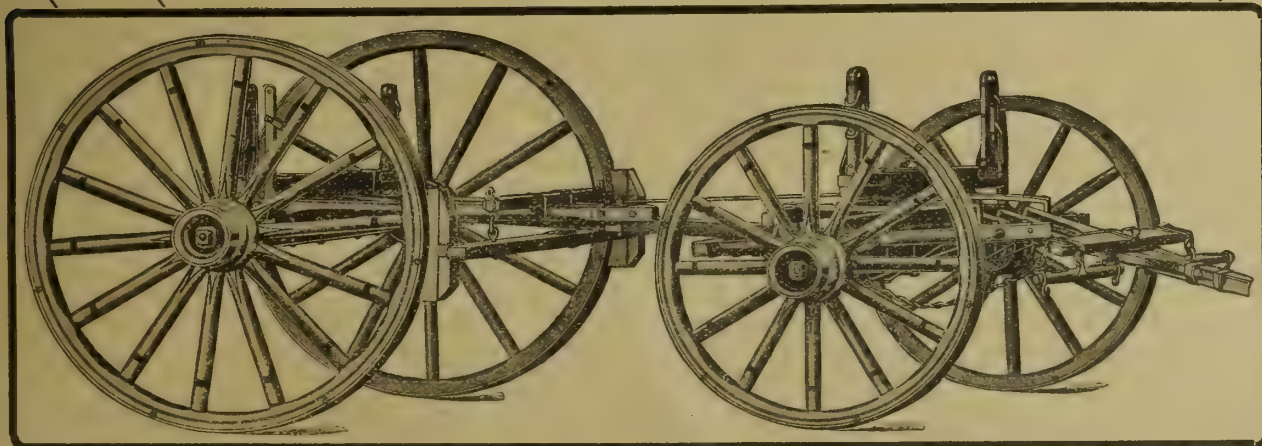
And there is no danger connected
with these motors in themselves. The
fuel is ordinary stove gasoline, which
only becomes dangerous when used in
an enclosed room where there is an
open light flame. It is never necessary
to use a flame about a Harvester Com-
pany's motor, as ignition is produced
by an electric spark. The gasoline sup-
ply should be stored in a tank out of
doors, in which case every element of
danger is removed. In use the motor
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plicity itself.

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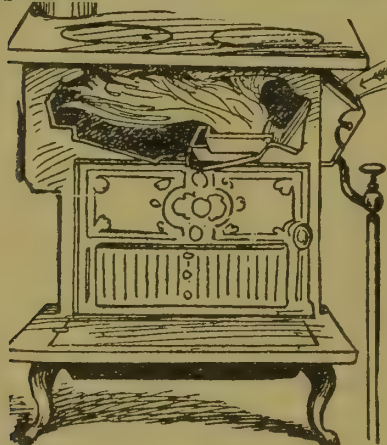
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Hague Domestic Oil Burner

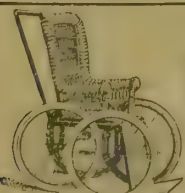


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Household Department

THE OLD MAN'S MOTTO.

"Give me a motto," said a youth
To one whom years had rendered wise;

"Some pleasant thought, or weighty truth,

That briefest syllables comprise;
Some word of warning or of cheer
To grave upon my signet here.

"And, reverend father," said the boy,
"Since life, they say, is ever made
A mingled web of grief and joy;
Since cares may come and pleasures fade—

Pray let the motto have a range
Of meaning, matching every change."

"Sooth!" said the sire, "methinks you ask

A labor something overnice,
That well a finer brain might ask,
What think you, lad, of this device
(Older than I, though I am gray),
'Tis simple, 'This will pass away.'

"When wafted on by Fortune's breeze,
In endless peace thou seem'st to glide,

Prepare betimes for rougher seas,
And check the boast of foolish pride;
Though smiling joy is thine to-day,
Remember, 'This will pass away!'"

"When all the sky is draped in black,
And, beaten by tempestuous gales,
Thy shuddering ship seems all awrack,
Then trim again thy tattered sails;
To grim Despair be not a prey;
Bethink thee, 'This will pass away.'"

"Thus, O, my son, be not o'erproud,
Nor yet cast down; judge thou aright;
When skies are clear, expect the cloud;

In darkness, wait the coming light;
Whatever be thy fate to-day,
Remember, 'This will pass away!'"

—John Godfrey Saxe.

"DAN'S" BLACK MORGAN.

A number of years ago when there were stretches of wild prairie in Northern Iowa, when log cabins of the backwoodsman still nestled here and there in the shelter of some thickly wooded hillside, Bert Daniels used to take his four-horse team, big covered wagon and breaking-plow, and each summer start on a trip to the Dakotas. All summer he would follow the breaking-plow, moving on to the next job as soon as one was finished. Sometimes he would barely reach Dakota before the season would end; other times he would travel across Iowa without more than half a dozen stops.

While working in the Western part of the State one summer, "Dan"—as he was familiarly known, came across a Morgan colt that just struck his fancy. She was less than a year old at that time yet she showed an unusually aptitude for learning. As Dan's work kept him at that place for nearly four weeks, he and the Morgan colt became quite good friends. Her gentle, playful disposition, together with her extreme beauty, suited Dan especially well, so he made up his mind to buy her and take her with him.

When Dan was at work, "Trilby"—for that was the name he gave her—would roam about the field, grazing when and where she pleased. Dan soon taught her to come at his call, and it was not long before she would place her hoof in his hand in response to his command, "Shake." She also learned to trot in a circle around him, to lie down and to rear her hind legs at his command. Another little trick which she had developed herself and one which pleased Dan very much was that of whinnying when any one approached her. By the time

they were ready to return in the fall, Trilby had also learned to travel along beside the team without being tied.

Each spring she went off with Dan's outfit, followed it all summer, and came back with it in the fall.

At three years of age she was a neat, well-proportioned animal, weighing perhaps thirteen hundred pounds and fleet as a deer. Her black coat always glistened, her fine mane hung nearly half way to the ground, her nicely arched neck, her clean-cut head and quivering pink nostrils spoke of refinement, while out of her bright eyes flashed spirit and vigor.

Late one afternoon, as Dan was making his homeward trip after a successful summer's work, he stopped in a fair-sized town lay in supplies for the rest of the journey. As is usually the case, there were a number of persons standing in front of the store at which Dan had stopped. Just for amusement, Dan ran his hand along Trilby's neck and whistled a word or two as he passed into the store. Immediately she laid down. There was considerable talk among the bystanders about a wornout and sick horse. Finally one man even ventured so far as to step out to examine her. As he touched her head, Trilby gave a low whinny. A sharp, short whistle answered from the store and Trilby was upon her feet so quick that the man who had been bending over her went sprawling in the dust. A general laugh from the crowd greeted him as he got up and watched her trot over to playfully tease the other horses.

As Dan was preparing to drive away a tall, dark stranger with small, twitching eyes, and thin blue lips accosted him with "What'll you take for that colt, pard?"

"Oh, guess I won't sell her, can't spare her, you see," was Dan's evasive reply.

"Well, I've got a fine one down at the barn I'll trade for her," persisted the stranger.

Dan assured him that he was not a trader; and after a few moments drove off leaving the stranger with an increasing desire to obtain that colt.

About a mile or so from town Dan pulled up for the night at a sheltered place where there was plenty of grass. After he had had his supper and the horse had finished grazing he fastened the four, two at each end of the wagon, then crawled in and rolled up in his blankets. The weather was just cool enough to discourage the attacks of the mosquitoes and other insects, so the horses were quiet and Dan soon fell asleep.

In the middle of the night he found himself propped up on one elbow, half awake listening for something, he knew not what. At length he was fully awakened by a low whinny from up the road. Half suspiciously he crawled to the back end of the wagon and pushed aside the flap of the cover. There, some thirty or forty rods up the road silhouetted against the sky, Dan saw the forms of the tall, lank stranger and—Trilby. He sprang from the wagon, uttering a shrill whistle. Hardly had the notes reached Trilby's ears till she reared up in the air and gave a tremendous lunge forward. Whether from fright or surprise, the stranger dropped the

rope and ran. Dan's only worry was the neckyoke which he had consciously picked up, so he contented himself with conjecturing as to what would have happened had he been better armed.

Trilby came tearing down the frightened at the curious proceeding and urged on by the dangling which kept flicking her breast chin. As she reached Dan she paused, blowing loudly, every quivering with excitement. She moved the halter, and as he stroking her silky mane concluded that she had paid him well for time he had spent in training her.

From that time on Trilby had more care than before and became even a greater pet. This was interrupted, however, when the fall she was five years old, Dan bought interest in a threshing outfit. He was scarce and Dan was forced to break Trilby in on the power. She was a careful driver, however, and frequent changes soon had her her share of the work.

During the next ten years she was on the power a good share of the time, for Dan bought a well-outfit which he ran with it. She was not threshing. Dan used to that she seemed to enjoy that. Anyhow it did not worry her, for she was always sleek and fat.

One fall Dan and his partner bought a steam engine—the first that section—to replace the wornout power. With the advent of the engine Trilby was given an honorable discharge and turned into large pasture.

It was a sweltering hot day the first of September when the engine was started up for the trial run. The engine ran fine and the separator hummed steadily until noon. At dinner, Dan speeded the engine "just to see what she'd do," he said. It was still and the dust hung in the separator like a dense fog. After another, the men sought shade, panting for breath, and wiping the perspiration and dirt from their faces. Finally Dan slowed down to the regular motion and thus ran until quitting time.

After the chores were finished, he could not resist the temptation to take an ear of corn down to Trilby. He went down to the gate, sounded her usual call. He repeated it several times but received no answer. He thought that some accident had befallen her, for he could not remember a time when she had answered his call, even though she were on the opposite side of the pasture. He concluded that he would go down below the grove, anyway, where he could get a view of the larger part of the pasture. There at the edge he saw Trilby lying stretched out. At first he thought she must be sick, and not until he was in a few feet of her did the dawn upon him.

She had heard the hum of the separator and its familiar call seemed imperious to her. There in the grass, was a circle the exact of the one she used to travel in on the power. But the steady steam engine, which needed no relay, had been more than a match for her.

She was dead!—Kansas Farmer

We live in deeds, not years;
In thoughts, not breaths;
In feelings, not in figures on a dial.
He most lives
Who thinks most, feels the noblest,
acts the best. Philip Ball.

HOME CURES.

soned, take mustard, or salt, blespoon, up of warm water, and swallow ght soon.

urns, try borax and a wet ban- ge, too;.

stered, then oil and dry flannel ill do.

children's convulsions warm baths e the rule;

castor oil dose, too, but keep e head cool.

syrup of ipecac when croup is store;

ainting, stretch patient right out n the floor.

ak in hot water is best for a rain—

mber these rules, - and 'twill ve you much pain.

ve not lived in vain—

but stop one tear, or heal a rons.

at a fainting robin into his nest ain.

ave not lived in vain."

RECIPES.

nd Milk.

ond milk is something nour- g for the invalid who finds it to tray time. Boil two table- ns of rice soft, press it through a

Add one pint hot milk, two almond extract and sugar to

Croquettes.

meat used in making soup has none of its nutritive qualities. ove it and chop fine one solid

Make a thick white sauce by ng two tablespoons butter and ing in four tablespoons flour to ooth paste; add one cup milk and

Set aside to cool. Then add bed meat and season with salt, ey salt and one tablespoon lemon

Beat one egg well, and add to one tablespoon water. Make ders of meat paste, roll in pul- ed cracker crumbs, dip in eggs, in crumbs again and fry in deep

Serve hot.

Boiled Eggs.

re tasty than the usual soft are eggs that have been standing illing water for eight or ten min-

Have the bowl or cup deep gh to cover the eggs well with water, put a lid on tightly to e in the heat, and on breaking the es both yolk and white will be d evenly jellied.

Other way to prepare a single or an invalid or late breakfast e break it into a china cup and set up in a sauce pan of hot water e the blaze. Add butter, salt and er, and stir while cooking. Serve e cut in which it is cooked.

s.

make clear, beautiful jelly, the. must be fresh, not overripe, and blemishes removed. Have the used for straining, clean and e. Use a porcelain or granite e. Currants and all berries d be gently rinsed in cold e to remove dust and insects, e placed in a kettle and stirred to a the juice. Boil till fruit is well ed, then strain through a jelly

If a particularly clear, spark- jelly be desired, strain two or e three times. To every pint of e add one pound of sugar and boil e minutes.

rain through cheese cloth into eglasses. This will be found a d and reliable rule for nearly all ties of jelly, with the exception rape, which is often quite vexa- with its perverse inclinations. A grape jelly which will not crys- is made as follows: Cover y ripe grapes with water, boil

twenty minutes, strain through a bag without squeezing. Let it stand over night, strain again, and boil twenty minutes. Add a pint of sugar for every pint of juice, and boil five minutes, then strain into jelly glasses.

HOMELY HINTS.

Steel ornaments may be restored by soaking in olive oil for forty-eight hours then polishing with unslacked lime.

Faded artificial flowers may be touched up with water colors and a camel's hair brush; or by shaking them about in a mixture of oil paint thinned with gasoline, the original hue may often be restored.

Rust spots may be removed by sprinkling powdered alum and salt over them, steaming over the tea-kettle spout and then putting the garment or piece of cloth out in the sun. fitted flat into each heel.

A tablespoonful of melted lard poured between the frame and casing of the window that sticks will help it to raise easily.

Rubbers will last much longer if a piece from an old rubber is cut and

For light summer dresses gum arabic is a more satisfactory stiffener than starch. A few pieces dropped in warm water to soak over night will make enough liquid to dip two or three dresses when thinned with warm water to the same consistency as ordinary starch. Flatirons will not stick in ironing garments which have been stiffened in this way.

Another laundry help is dye for cotton or linen, dissolved and bottled ready to use as one would bluing. Pink, blue, red, lilac, green and yellow may be prepared according to the directions that come on each pack- age, and used, a little at a time in rinse water, to brighten faded garments.

Grease spots on marble may be removed by applying powered magnesia.

When the kitchen linoleum becomes shabby, paint it a soft yellow brown. It will have the effect of a hardwood floor.

Boiled eggs, to slice nicely, should be put over the fire in cold water, and should remain fifteen minutes after the water begins to boil and allowed to cool in the same water. If cooled by dropping into cold water, they will not cut smoothly.

CINDERELLA.

The teacher had been reading a story of Cinderella to her class of youngsters and was now going over it again in order to fix it in their minds. Among other questions which she asked them was why it was necessary for Cinderella to leave every night early enough to be home by twelve o'clock. From various members of the class she elicited most of the reasons which are im- plied in the story, until finally all re- mained silent.

"Isn't there any other reason? she asked. "Can't any of you think up another?"

Up shot Larry's soiled, chubby paw, in frantic eagerness to indicate his knowledge.

"That's good, Larry. What is the reason?"

"She had to catch the last car." piped Larry.—Puck.

City Niece—"What kind of a chick en is that, Uncle Josh?"

Uncle Josh—"That is a Leghorn."

City Niece—"How stupid of me!

Of course I ought to have noticed the horns on his legs."—Chicago News.

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A NEW POTATO—THE SOLANUM COM- mersoni Violet—There has recently been introduced to this country from France one of the finest tubers ever grown. Will average thirty tons per hectare (2.47 acres) on wet soil. Grows its best on wet or swampy land. Immune from disease. Resists frost better than others. Only a few pounds for sale at 65 cents per pound (75 cents by mail), 4 pounds \$2.00 or \$2.50, postage paid; and \$40 per hundred pounds. A. BUSSIERRE, Agriculturist, Santa Barbara, Cal.

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3000 GOOD, THRIFTY WASHINGTON NAV- EL and Valencia late trees; 1 and 2 years old; at the right price. Free of scale and about C. D. HUBBARD, San Fernando, Cal.

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Our Rat Virus is the only scientific non-poisonous
rodent exterminator.

Mr. Neff of Anaheim, writes: The walnuts seem to be showing up better than a few weeks ago and it is likely the crop will be 25 per cent better than last year, in this locality.

The Produce Markets

Los Angeles Markets

Los Angeles, Aug. 21, 1907.

Cutter.

Receipts of butter continue larger, but prices are held firm, and an advance in quotations have carried the figure back to the 65-cent notch. Heavy arrivals of Eastern are noted daily.

Creamery extra per roll.....65
Creamery first.....60
Dairy.....55
Cooking.....47 1/2

Cheese.

Cal. Young America, per lb.....19
Hand.....20
California Anchor.....17
Cal 3-lb. hand.....20
Northern fresh.....16 1/2
Eastern.....18@19
Domestic Swiss.....23
Imported Swiss.....30 1/2

Eggs and Poultry.

The egg market is stronger if anything than last week. Quotations still stand the same, but for extra fancy selected, a cent or two advance has been paid.

The prices given are those of the commission man to the retailer.

Eggs local candled.....29
Eggs case count.....27

The following are average prices which dealers pay to producers for live weight.

Hens per lb.....13
Young roosters per lb.....14
Fryers.....15
Broilers per lb.....16
Old Roosters.....8
Turkeys.....17
Geese.....11
Ducks.....11
Squabs per doz.....1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs, from 175 to 200 lbs.....7 1/2
Prime steers.....4 1/4@4 1/2
Heifers.....3 1/2@4
Calves, per lb.....4 1/2@5
Sheep, ewes, per head.....4.75@5.25
Lambs, per head.....4.00@4.50
Wethers.....5.50

Potatoes.

Potatoes are slightly easier this week. While general quotations still stand, some stock has been offered at ten or fifteen cents under quotations. Good local Burbanks can occasionally be had at \$1.70.

Early Rose.....1.75@1.85
White.....1.90@2.00
Local Burbanks.....1.85
Sweet potatoes per lb......4

Onions.

Silverskins per ctl.....2.50
Australians.....2.00@2.55
Yellow Danvers.....2.40
Garlic......9

Vegetables.

Asparagus per case.....3.50
Artichokes......65@80
Beets per doz.....20@30
Bell peppers green lb......10
Beans wax......5@7
Beans Limas......3
Beans green......3
Cabbage sack......60@70
Celery per doz......40
Chili peppers green......5
Cucumbers per 20-lb box.....15@30
Corn per box......40
Cauliflower.....1.25
Carrots per doz.....20@30
Egg Plant per lb......7
Green onions doz bunches.....15@30
Lettuce per crate......60@80
Mushrooms per lb.....1.00
Pie Pumpkins......1 1/2
Peas sugar per lb......4
Okra, per lb......20
Rhubarb per box......50
Radishes per doz.....15@20
Spinach per doz.....10@20
Summer squash crate......15
Turnips doz bunches.....35@40
Tomatoes per box.....40@60
Water Cress per hundred.....40

Citrus Fruits.

Valencias.....1.50@2.75
Seedlings.....1.25@1.50
Grapefruit Seedless.....2.00@2.50
Grapefruit Seedlings.....1.25@1.35
Lemons, fancy.....2.00
Lemons, choice.....1.25@1.50
Tangerines, halves.....1.50@1.75

Fresh Fruits.

Apples Red Astrachans box.....1.00@1.25
Bellefleurs.....1.75
White Astrachans.....2.50
Pearmaines.....1.75@2.00
Gravenstein.....1.50

Crab apples.....1.00
Blackberries......6@8
Cantaloupes, crates.....1.00@2.00
Figs black per lb......5@6
Figs white......4@5
Grapes, per 4 bskt crate.....1.30@1.75
Huckleberries lb......20
Logans......7@8
Nectarines.....1.75@2.00
Pears......2.25
Peaches per box......75@1.00
Plums Simonas.....1.15
Plums Tragedy.....1.25
Raspberries......10
Watermelons per lb......01

Dried Fruits.

The dried fruit market is surely in a bad way. Not that there is a serious slump in quotations. In fact, there are practically no quotations being made. All stand and ask where are we at, the buyer refusing to buy, and the seller refusing to sell. Of course, it is all owing to the pure food-sulphur ruling, and the fact that the Armsby Co. are repudiating contracts. It is said that the North Ontario Packing Co. are standing up to their contracts. But all dealers who buy at full quotations are liable to loose, because of a possible shading of price and the fact that the pure food ruling gives Eastern jobbers a legal excuse to turn down the shipment absolutely, and then buy, if they can force the packer into line, at their own price.

Mr. Perry R. Wilding, a large broker in dried fruits and nuts, informs the Cultivator that the output of dried peaches in this State this year will be about 14,000 or 15,000 tons of which nearly 10,000 tons will be produced in the San Joaquin valley. The loss on this vast output will be enormous, unless something almost miraculous occurs to offset the fearful blunder of the pure food section of the Department of Agriculture. The announcement of Secretary Wilson that no prosecutions will be made this year has but little effect as yet, for the ruling having been made and not officially revoked, gives the club to the Eastern buyer with which he can beat the life out of the market.

There is no change in quotations. In fact, there may be said to be no quotations for there is nothing doing.

The only advice to be given to the grower is to keep cool and wait developments.

Evap. apples fy per lb.....8 1/2@11
Apricots.....20@25
Peaches.....11@13
Pears......13
Nectarines......14
Prunes.....4@5 1/2

Beans, Dried

Beans are showing more life and are being bought at slightly advanced prices.

Limas per ctl.....4.75@5.00
Pink No. 1.....3.25
Lady Washington.....3.25
Small White.....3.25@3.40
Black Eyes.....5.50@6.00
Garvanzas.....5.75@6.00
Lentils.....12 1/2@15

Honey

The prices we give are those at which the jobber sells to the grocer in small lots. The producer should take from this one cent a pound commission and freight to Los Angeles, and there will remain the net returns to him.

Extracted white.....6@8
Light Amber.....5@6
Comb, water white, 1-lb. fms.....12@15
Light amber......611@13

Nuts.

Nuts are looking up somewhat and interest in the coming crop manifested. Orange county reports a slightly increased output of walnuts over former expectations. Prices are not yet made on the coming crop.

Almonds per lb.....19@25
Peanuts, Virginia.....9
Peanuts California.....6@7
Walnuts, No. 1 S. S.....14@15

Hay.

Barley No. 1.....13.50@15.00
Barley No. 2.....10.00@11.00
Alfalfa Northern per ton.....12.00
Alfalfa new local.....11.00@12.50
Plain oat No. 1 new.....12@13
Wheat No. 1.....12@14

Grain.

Purchasing prices f. o. b., Los Angeles are:

Wheat new per cwt.....1.70
Wheat, new, per cwt.....1.70@1.75
Wheat, Sonora.....1.52 1/2@1.57 1/2
Barley.....1.17 1/2@1.22 1/2
Corn Eastern sacked......55

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn.....1.65
Shorts.....1.45

Bran.....
Egyptian corn.....
Oil cake meal.....
Rolled Barley.....
Rolled barley per ton.....
Feed meal.....
Kaffir Corn.....

San Francisco Markets

San Francisco, Aug. 20, 1907.

Butter.

Butter shows the advance of cent during the past week and has a firm market though receipts very large.

California extras per lb.....
California firsts.....
California seconds.....
California thirds.....
Packing stock.....

Cheese.

California Young American fy.....
California flats fy.....
Eastern fancy.....
Oregon fancy.....

Eggs and Poultry.

Eggs are very firm in holding quotations which are one cent higher than last week's. Receipts light.

Fresh ranch eggs.....
Eggs first per doz.....
Eggs seconds per doz.....
Eggs thirds.....
Eastern, selected.....

Hens per doz.....4.50
Hens large.....5.00
Young roosters.....6.50
Old Roosters.....4.00
Fryers, per doz.....4.50
Broilers per doz.....4.00
Ducks, young.....4.00
Geese, per pair.....1.50
Turkeys, per lb.....1.25
Pigeons......125

Live Stock.

Steers No. 1.....
No. 1 cows and heifers.....
Hogs 80 to 200 lbs.....
Hogs 200 to 300 lbs.....
Calves, per lb.....
Lambs, yearlings.....
Wethers, No. 1.....
Ewes, No. 1.....

Potatoes

Sweet potatoes have advanced slightly, the finest grades commencing a half cent higher figure than week. Whites practically same week ago.

River whites.....
Early Rose.....1.00
Sweets.....

Vegetables.

Asparagus.....
Cucumbers per box.....
Corn per sack......75
Chili peppers green box.....
Bell peppers per box......75
Egg plant per box......75
Green peas per lb......14
Squash per box.....
Peppers Green Bell per box.....
Rhubarb per box.....
Tomatoes California.....
String beans......1
Wax beans.....
Garlic.....

Onions.

Onions new reds.....2.25
Onions Br Australia per ctl.....3.25
Onions new yellow.....2.50

Citrus Fruits.

Valencias.....2.00
Seedlings.....1.25
Grapefruit, seedless.....1.75
Limes......15

Fresh Fruits.

Apples Red Astrachans.....
Apples Gravenstein.....6.15
Apples small stock.....
Crab Apples.....
Blackberries per chest.....
Figs one layer.....
Figs 2 layers.....
Grapes per crate.....
Logans per chest.....
Melons per crate.....
Plums per box.....
Peaches per box.....
Bartlett's.....
Raspberries per chest.....10.00
Strawberries per chest.....8.00
Watermelons per doz.....1.00

Dried Fruits.

Apples (evap.).....6 1/2
Apricots per lb new.....2 1/2
Figs white.....8 1/2
Prunes 4 sizes.....4 1/2
Peaches.....6 1/2
Pears.....6 1/2

Beans, Dried

Limas No. 1.....5.15
Pink.....2.50
Large white.....2.00

Business Notes

white..	2.90@3.00
Eyes..	4.85@5.00
neys...	3.25@3.50
	3.20@3.30

Hops.

ew, future delivery, per lb 9@11	
ld, fancy	9½@10
choice	7@9
common	5@6

Nuts.

s, new	17½@18
California	5½@6½
	12@16

Honey

white comb....	16@17
	13@16
ed..	5½@7½
ax No. 1 per lb.....	26@28

Hay.

local	11.00@13.50
lat..	14.50@16.00
at..	10.00@14.00
No. 1 new..	18.00@21.00

Grain.

ding the grain situation the le says: r as stability of prices is con- the local grain market is in ex- condition. The choice grades y firmly sustained and holders offering very freely, owing to that still better figures may ined a little later in the season. lume of transactions continues small and as has been the r several weeks the demand is confined to medium-class The local speculative situa- dull and devoid of interest.

No. 1	1.52½@1.55
No. 1	1.27@1.30
small yellow..	1.60@1.65
arge yellow..	1.50@1.55
hite	1.45@1.50
d.	1.50@1.75

Feed Stuff.

er ton	19.00@22.00
per bale..	60@90
orn meal per ton..	32@33
l corn per ton..	33@34.50
ke Meal per ton..	40.00@41.00
ut cake, per ton	25.00@26.00
ugs	27.00@30.00

Citrus Market

Los Angeles, Aug. 20, 1907.

orange market cannot be said "featureless" for there is a good d all grades are granted good on. But there is little change n be but little till the end of son, now less than two months

efruit is selling well and should p the small amount grown at gures.

Shipments.

s shipments to date since Nov. 6, 26,721 of which 3147 were . Same date last year, 24,957 of 3341 were lemons.

NEW YORK CITY, Aug. 19.

ENCIAS—	Avs.
d o r Nat O Co.....	\$4.90
rd st Nat O Co....	4.05
byne o r E M Ross.....	4.55
fy Sparr Ft Co.....	3.90
ch Sparr Ft Co.....	3.65
ty Cal C U.....	4.55
ch Cal C U.....	3.95
er xfy Redlands Junc.....	5.05
ter xc Redlands Junc.....	4.30
er Ranch xc S Mar Gr Pack Co	4.50
eador st S Mar Gr Pack Co	4.25
fy ACG Ft Ex.....	4.70
st ACG Ft Co.....	3.60
ch....	4.15

TON, Aug. 19.—The market is strong and the weather favorable. e cars sold today and five cars on

ENCIAS—	
er xc S T Ex Whittier.....	5.10
t S T Ex Whittier.....	4.20
e Palm.....	5.05
C.....	4.75
cia fy J M Riley..	4.55

TSBURG, Aug. 19.—The market in on good stock and the weather r. Three cars sold.

enci xc O K Kft Ex.....	3.60
ce ch O K Ft Ex.....	3.10
efay st O K Ft Ex.....	2.90
u Ranch xc S Mar Gr Pack Co	4.35

California Orange st Riv Ex Riv..	3.35
LEMONS—	
Quall xc O K Kft Ex.....	3.50
Coyote ch O K Ft Ex.....	3.10
Blue Jay st O K Kft Ex.....	2.80

PHILADELPHIA, Aug. 19.—The market is steady and weather favor- able. Five cars sold today.

VALENCIAS—

Purity fy Tustin Pack Co.....	4.40
Purity fy Tustin Pack Co.....	4.35
Old Oak ch Tustin Pack Co.....	4.10
Old Oak ch Tuntin Pack Co.....	3.95
Lucky st Tustin Pack Co.....	3.55
Mountain Lion fy F H Speich & Co	3.55
Our Popular ch F H Speich & Co	2.90
Native Son st King Ft Co.....	3.45
Salt Lake st King Ft Co.....	2.40
Hunter st ACG Ft Ex Charter Oak	2.40
ST. MICHAELS—	
Mountain Lion fy F H Speich & Co	3.55

ST. LOUIS, Aug. 19.—The market is firm on good stock and the weather is warm. Two cars sold and three cars on tracks.

LEMONS—

Harbor ch Charles Mohnike.....	3.35
Standard st Charles Mohnike.....	2.80

VALENCIAS—

Volunteer xc S A Ex N Pomona..	4.15
Greyhound ch S A Ex N Pomona..	3.15

PRACTICAL MISSIONARY EN- DEAVOR.

Missionaries in Armenia are en- deavoring to do some practical work by establishing a farm school for the nations. It is in charge of Geo. P. Knapp of Harpoot, Turkey, who writes:

"We have received \$6000 towards a farm. This is about a third of what we need when buildings, stock and implements are added. An Arme- nian graduate of the Massachusetts Agricultural College can manage this work with the thirty boys who have been in training for two years on hired land. One of our boys has se- cured a diploma from the Sericultural School at Brousa, and takes charge of our silk raising interests. In this agricultural center there is a fine opening for an agricultural school, affiliated with Euphrates College, where scientific methods may be taught in connection with the use of American implements.

"Situated as Harpoot is, within a great ox-bow of the Euphrates, about an equal distance from the Mediter- ranean, the Black Sea and Lake Van, makes it a fitting place where our present plant can develop into an industrial institution similar to Hampton and Tuskegee in America. It is far better to train these boys and girls to be a blessing to this country than to let them drift, as some have done, with the strong tide of emigration to America."

KEEP BUSY.

Everything seems to know that un- less time is taken by the forelock now it will soon be too late. Under irri- gation, the hot weather dries out the ground rapidly. All kinds of summer weeds, such as pusley, tumble weed, sunflower, etc., grow very rapidly, and frequently an absence of a few days from a particular part of the orchard reveals the fact in an astonishing de- gree. Between irrigation, alfalfa cut- ting, where this is grown, cultivating and attending to the rapidly ripening fruit, the grower has his hands full.

The Vacaville Company has been formed to manufacture pear blight re- medy. The capital is placed at \$10,000. The officers are: President, Fred M. Buck; Vice-president, Dr. Langfeldt; Secretary and Treasurer, I. Blum.

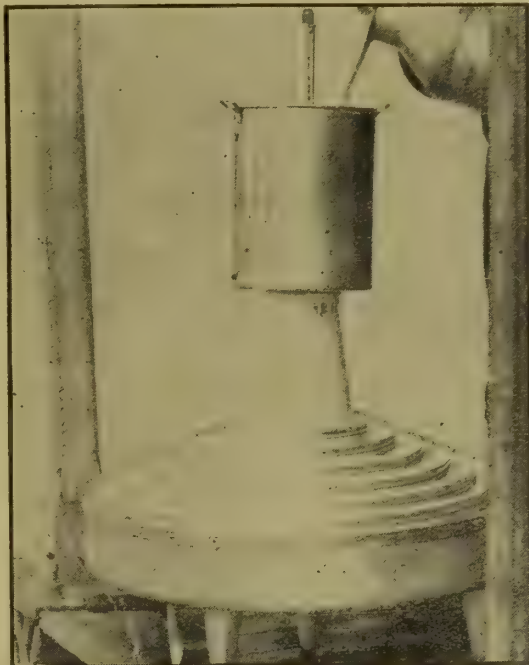
OPPORTUNITIES OF TODAY.

Opportunities of Today, a high-class monthly magazine built upon entirely new and original lines, will make its initial bow to the public with the Sep- tember number. As its name implies, the publication will deal with bringing to the notice of opportunities seekers, the many and various chances for wealth and homemaking that are opening throughout all the United States.

The home of the new magazine is the Majestic building, 73 and 75 Mon- roe street, Chicago. Advance sheets of the publication indicate that no ex- pense will be spared to make it one of the most striking and elaborate pieces of work of its kind ever published in this country. The first issue is said to represent an expenditure of very near- ly \$30,000.

THE TRAINING OF THE HUMAN PLANT.

A valuable book recently received is well worth perusal by Cultivator read- ers, especially those who have to do with the training of the child. It is



Luther Burbank's "Training of the Human Plant."

Out of the richness of his years of experience and investigation, Mr. Bur- bank urges an ideal training looking to- ward an ideal race. He shows that we are more crossed than any other na- tion in the history of the world, and that we meet the same results that are always seen in a much-crossed race of plants; if we follow the teach- ings of nature, we may produce the finest race ever known. He demands for the child of the race—most sensi- tive of living things—first and fore- most an heredity and environment of love; differentiation in training, sun- shine, good air and nourishing food.

While "The Training of the Human Plant" makes special appeal to par- ents and teachers, the strong, sane, in- tensely interesting, and illuminating treatise should have general reading.

Published by the Century Co., New York, 65 cents.

TUTTLE'S ELIXIR.

34 West Union Street, Pasadena, Cal. Pasadena, Cal., May 7th, 1907, Dr. S. A. TUTTLE,

Dear Sir: This is to certify that I have used your Elixir and find it all you recommended it for Colic and Mud Fever. I have had the very best results in all cases that I have used it. I can fully recommend it to all and would not be without it in my stable.

Yours truly,

John McDonald, Mgr.

THE MODEL STABLES

ANTHRAX.

Cattle owners will do well to get in touch with the Pasteur Vaccine Co., 441 Wabash Avenue, Chicago, who can send valuable information regarding Anthrax or Charbon. The firm re- cently issued a valuable circular on this topic which reminds the stock grower that his cattle are not im- mune to this dread disease yet.

MILK COOLER.

One of the most common sense of milk coolers and aerators we have seen is manufactured at Riverside, by Stephenson & Tharp. It consists of a container which allows the warm milk to escape into a long, spiral channel underneath which is a stream of cold water. The milk escapes from the lower end of this channel not only cooled, but thoroughly aerated. In fact, as the manufacturers say, it is simply perfect and perfectly simple. Nothing quite so good. The cost of run- ning machine is a mere nothing. We make it large enough to accomodate a dairy of 60 cows.

It is well worth getting the informa-

tion about, which can be done by writing to Stephenson & Tharp, Riv- erside.

BUDDED ROSES.

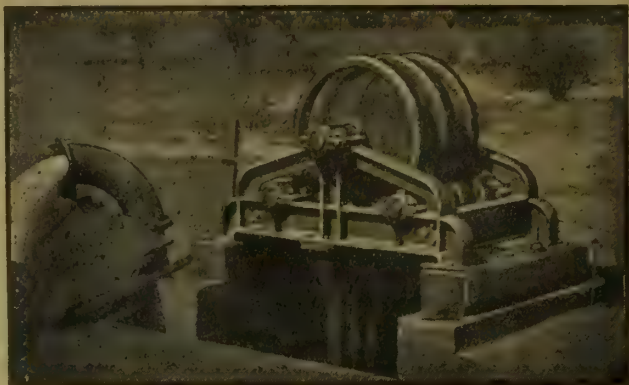
An exclusive trade list of field-grown roses is given in an eight-page folder issued by Fancher Creek Nurseries, of Fresno. It has the names of a couple of hundred of Mr. Roeding's choice roses, field-grown, with prices to the trade.

A recent statement of the German- American Savings Bank of Los An- geles, shows deposits aggregating 9,584,376.08 which with \$600,000 capital and nearly \$300,000 undivided profits, makes an aggregate of nearly ten and a half millions. It is a strong institu- tion conservatively and honestly man- aged and worthy the trust which its patrons have granted it.

Orange county is contemplating a bond issue for the Newport protection district, to secure control of the stream in time of storm. The cost to the dis- trict will be from about \$9 to \$10 per acre for these improvements, or a total of \$183,000.

Exepriments are being conducted at Fresno in the sulphuring of fruit. One experimenter has found that one pound of sulphur is sufficient for 2850 pounds of green fruit.

Addison Double Plunger Pump Head



It will pay you to investigate the Addison before purchasing a pump. Send for Catalogue B.

Addison Pump Company

Phones: Home 91; Sunset, Black 1551

Cor. 1st and Cypress Sts., Pomona, Cal.

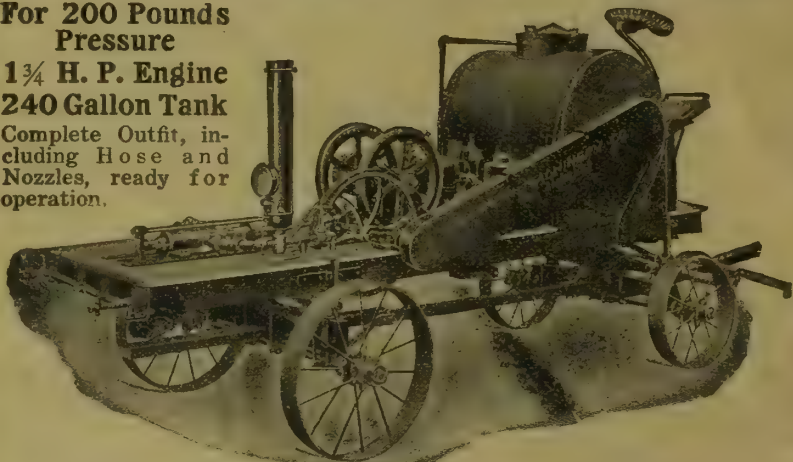
Smith's Portable Power Sprayer

For 200 Pounds Pressure

1 3/4 H. P. Engine

240 Gallon Tank

Complete Outfit, including Hose and Nozzles, ready for operation.



Powerful, well built, durable and efficient. Write for special circular and prices.

Large Variety of Hand Sprayers in Stock

S. J. Smith Machinery Co. Power and Pumping Plants
212-214 So. Los Angeles St., Los Angeles, Cal.

Our Superior Lines of



Water Proof Flume Linings

For Irrigation Ditches

Are in great demand. There's a reason. Tell us your needs. Samples and prices, free.

Pioneer Roll Paper Co.

Salesrooms—219-221 South Los Angeles St., Los Angeles, Cal.
Phones—Home, Ex. 228; Sunset, Ex. 22

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GASOLINE
OR
DISTILLATE

ENGINE

Has many points superior to any other engine.

Hundreds In Use
Every One Satisfactory

Built for California cheap fuel.
For further information, write

STEARNS GAS ENGINE WORKS

1001-3-5 North Main St.

Los Angeles, California



LET THE Simplex Separator

Do Your Skimming

GUARANTEED CAPACITY
LIGHTEST RUNNING
CLOSEST SKIMMING
EASIEST CLEANED
MOST DURABLE

The Largest Capacity for Money of Any Separator on Market. Hand and Power Models.

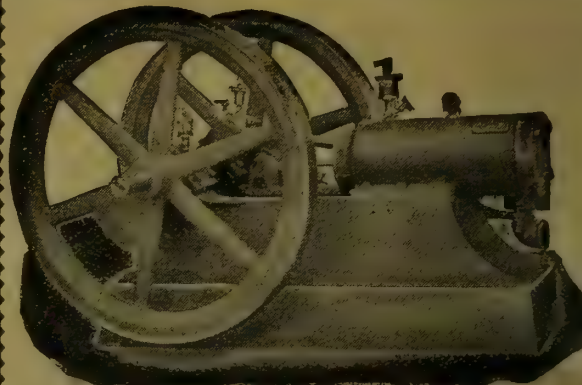
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Baker & Hamilton

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Los Angeles
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Samson Gasoline and Distillate Engine



Are Strong and Durable

Fully Guaranteed in every particular
We make complete Irrigation Outfits

Samson Centrifugal Pumps Are the Best.

Enlargement of our factory makes it possible for us to make prompt delivery. Send for our new catalogue and estimates.

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Office and Factory, 1100 to 1198 Aurora St., Stockton, Cal.
Branch: 920 J St., Fresno

558 S. Los Angeles St., Los Angeles



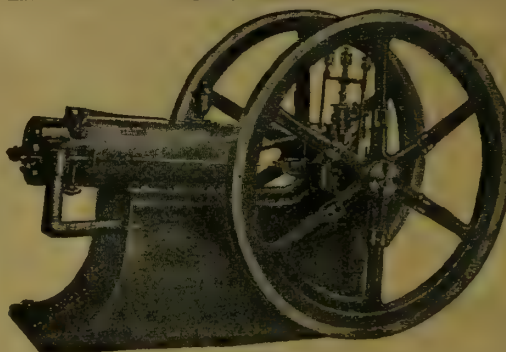
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The Highest Grade Made. Won First Prizes at Sacramento and Porterville Fairs. Large stock always on hand. Send for Pump and Engine Catalogue.

G. W. Price Pump Co.

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Branches — Sacramento, Visalia, Porterville



Don't Experiment

With untried engines. Buy an engine with a guarantee of the lowest cost for the work—the

White & Middleton

Absolutely reliable, tested and proved.

Wm. Gregory

602 No. Main St., Los Angeles



BOSTROM'S IMPROVED FARM LEVEL

Used for irrigation and drainage work. Cheapest and best level yet invented for farm use. Has the best patented improvements in simplicity and usefulness. Can be operated by any one. Price including scope tripod and target rod rod \$12.50.

PALACE HARDWARE COMPANY.

458 Golden Gate Avenue, San Francisco

Coast Agents.

Send for Circular.

500,000 FEET OF WATER PIPE

All sizes, Galvanized and Black, slightly damaged. Special Price While It Lasts. Phone or write.

ADAMS PIPE CO., 603 Grant Bldg., Los Angeles, Cal. Phones: Main 1917, Home 1

When writing advertisers, mention Cultivator.

California Cultivator

Los Angeles

August 29, 1907

San Francisco

What Kind of Vacation for the Farmer?



A Mountain Lake
in
Vacation Time

Courtesy Out West

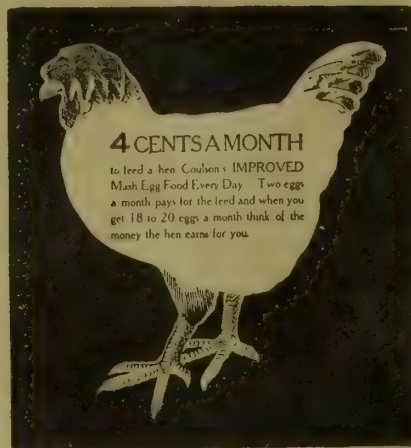


Attractive Grounds
for a
Home Vacation

Coulson's Improved Mash Egg Food

**Takes
Less
Feed**

**Makes
More
Eggs**



IF YOU WANT PLENTY OF EGGS THIS FALL AND WINTER when prices are high, you must lay your plans now. The hens must be given a strong feed which will enable them to get through the molt without loss of condition, and they will then quickly commence laying again.

First, see that your hens are healthy when they start to molt. At this time of the year, after a heavy laying season, they are apt not to be at their best, and a little of *Coulson's No. 3 Condition Powder* will put new life into them, and enable them to thoroughly digest and use the good food which they specially need.

At the same time, they must have the best food you can give them from the commencement of the molt. You will find *Coulson's Improved Mash Egg Food* is just what is required. It is strong in protein, due to the blood, meat, bone and oil cake meals which it contains.

Put Up in 90-lb. Sacks Directions in Each Sack

Your hens will not need to eat so much of the concentrated food to obtain the egg-making and feather-producing materials they need, thus saving their digestive organs and your pocket at the same time.

Coulson's Improved Mash Egg Food is therefore beneficial in two ways. Less feed is required and the hen gets just what she needs, with the result of a quicker molt and more eggs.

First cost is not everything, but even in this respect, COULSON'S IMPROVED MASH EGG FOOD shows to advantage. A 90-lb. sack will make a meal for 1250 hens. This is just over 2 lbs. a hen a month. Think how many eggs does it take to pay for this feed? In November, only 1 egg, and not more than 2 on the average.

We know what this feed will do by results on our own poultry ranch, as well as from testimonials from pleased customers all over California. What it does for others, it will do for you.

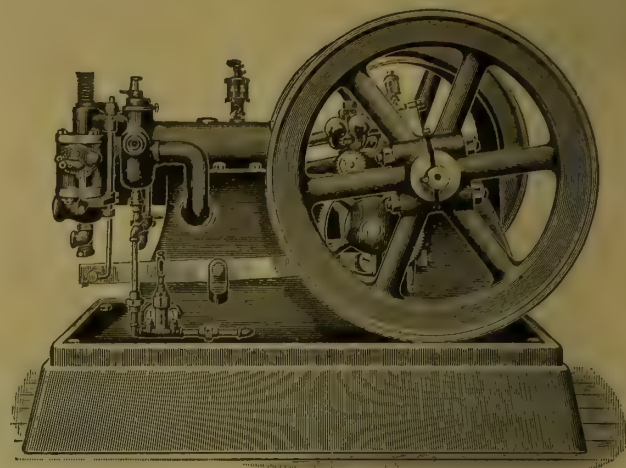
Give a trial order to your dealer; if he does not keep it, write to us, and we will either advise you where you can get it locally, or supply you direct.

Manufactured By

Coulson Poultry and Stock Food Co.
Petaluma, California

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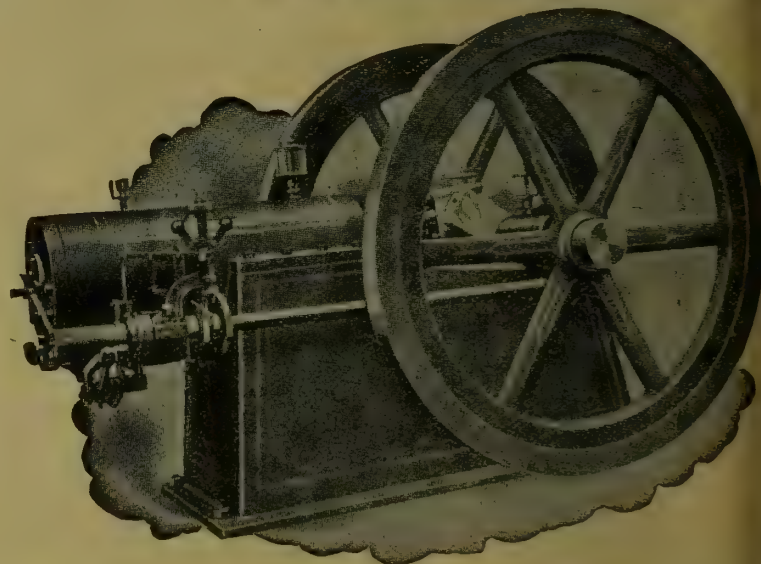
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Los Angeles, Cal., July 8, 1907.

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We have recently installed and now have in operation on our ranch near Anaheim a 60-horse-power Columbus Distillate Engine. This engine is belted up to a No. 6-2 stage pump, in a 90-foot pit, and is running along on an apparently easy load and pumping by actual measurement over 150 inches of water. Our fuel consumption has averaged so far four gallons per hour.

To the man who wants plenty of water, little trouble and economical engine, and one that develops the full horse power, we can cheerfully recommend the Columbus Engine.

We have had experience with high speed so-called big horse power engines, and know whereof we speak when we recommend the Columbus Engine to the public, knowing that it is a kind you can depend upon free from all trappy devices, simple to operate and economical.

The writer has run a 10-horse Columbus Engine at Tropic, for the past four years, and can vouch personally for the above statement.

Trusting that this information will be a benefit to those interested, we beg to remain,

Yours very truly,
THE ANAHEIM PRODUCE CO.,
By E. B. Barry, Manager.

Greenleaf-Compton Co.

121 South Los Angeles St.

Los Angeles Cal

California Cultivator

XXIX—No 9

Los Angeles, California, Thursday, August 29, 1907

Subscription \$1 a Year

Pitch Your Tent at Home

A Summer Vacation May Be Spent at Home and Prove the Means of Far Greater Happiness Than Any Beach or Mountain Trips. A Few Hints from One Who Has Tried

FEW YEARS AGO in discussing plans for spending the Fourth of July, our household was in straits to decide as to which resort or what place to choose to go with our presence. Which would give us the most pleasure and patriotism? With the least fatigue, fret and fuss in going? Incidentally, which the least expenditure of money worked for coin of the realm?

Each place had its good points and, strangely, each had its objectionable ones. The one great object, however, obtained in the case of all was suggested and that was that on that day push and jam and push and haul to get seats, rather, get a place to put our feet when others didn't stand on them. In the cars, was such that all united in saying "Let's don't go at all." It came hard for the boy, a few years under majority, but in consideration of other good and sufficient compensations he finally yielded reluctantly.

When I came in with a suggestion that we all in and work—play I mean—with the plants and flowers about the house and especially construct a little lath house for which we had long intended to propagate plants, grow hanging baskets and incidentally swing a hammock and afford a lounging place out of sight of the passerby on the street. The idea was accepted by the family and the lumber ordered. The lumber bill was a few dollars—less than five—for we used one of the woodhouse and a high fence for two sides of the summer house, so that the outlay was far less than for the family to have gone on a hunt to some resort.

Work was taken up with a will while fire-crackers were exploding and people going by in gala attire. It was finished, hammock swung and pillow and blanket most inviting, with plants arranged gracefully about the sides of lath and baskets of ferns from roof and, better than all, tasty table with dainty luncheon of sandwiches, fruits and ice cream in the center with a little family about at the time of the gloaming when these same "gala day attired" folks were coming home. They were tired all right, but of course they had had a "big time." We hadn't, but our "little time" was at that moment being intensely enjoyed. And we voted it a successful restful day, the result of which would give many days' pleasure in the months to come. I came up to our expectations in that, and later took a restful trip to the ocean when the word was not there.

But what has this to do with Camping out at home? Nothing. Or at least it's only the prelude for the sermon to follow.

to the Subject.

It goes without saying that when one has put in a good, straight year's work he, she too, is entitled to a few days rest. Russel Sage said this vacation business was all bosh, but the rest of us have decided he didn't know. Then the question is, how get our rest without getting all tired?

The above Fourth of July gave me a hint. I'll pitch it on and enlarge upon it a bit.

Fortunately, in California, most of us think our little section the cream of the earth. I remember of the old days "back east" how a grumbler was about in the land kicking over the condition of his own community, its climate,

its people—everything. California has few of that class.

Read Mrs. Sherman's article on dairy page. Note how she glorifies San Joaquin Valley climate, and revels in the heat of the sun which gives sugar to the grape and wealth to the grape grower. Read John Isaac's claim for Sacramento as a summer resort.

Some of us who have been unfortunate in striking Sacramento at fair time, when things fairly sizzled may be surprised, but we believe Mr. Isaac's claims are good.

And I can imagine a most enjoyable camping time under the great eucalyptus and peppers—in appearance almost like the forest primeval—at Mrs. Sherman's Minnewawa home. It is a beautiful place. All homes may not be so beautiful as hers, but many may be made more beautiful than they are now.

This Year's Experience.

So when my vacation came this year I spent two straight weeks of working—playing I mean—about my own home. I had the hint from that Fourth of July experience. And, as before, I had—and am now having—more pleasure from that one vacation than any other. Pleasure not only at the time of the playspell, but in possession of its results.

A "Spoon Holder."

I have a place of about an acre. Part of it an unsightly hillside. Part way down a clump of peppers started from some seed carelessly scattered some years ago, grew in a tangled mass with weeds and underbrush. Winding down the side of the hill to this, son and I made a trail. The underbrush and weeds were cleaned from under the trees, a short retaining wall built and a level place graded within the clump in which a settee and a rustic seat gave a cozy and secluded retreat which at once took the name of "spoonholder."

Trees were planted, vines trained up and the place generally tidied up. The trees planted were various kinds of eucalyptus, cedars, live oaks and other forest trees which will make my home grounds more of a "camping place" some day.

Pitch Your Tent at Home.

But, you say, the farmer's work is along that same line all the year. That would be no change hence no rest. But that is not the case entirely. The creating of beauty about the home and the anticipation of pleasure from the more pleasant surroundings will give a zest to the work and rest almost the equal of an outing at the beach.

Besides, the camping out feature may be entered into on the home grounds. Sleep out doors. Buy a side of bacon, a lot of canned goods and camping supplies generally and live in the open. Don't have the everlasting "boiled dinner," but get down to simple life.

Work—play rather—short hours and rest and get acquainted with your family. Don't be inveigled into doing any farm work that "just has to be done." Cut it out. You are on your vacation, and don't know anything "has" to be done. When you "get back" it can then be taken up.

An Arbor Too.

If your plan takes in the planting of trees that may not be bought in pots and planted at this season of the year, still plan and work to the end that later they may be planted and your home beautified with great forest trees. Another feat-

ure to be planned is a grape arbor, broad and spreading near the back door.

Of Commercial Value.

Let your vacation impress upon you the commercial value of trees about the home, they raise the value of your own and your neighbors places. They make your children more content with the old home. Their grateful shade will make you more able to do a big day's work at the busy time of the year when you anticipate the pleasure of a cool place about the back door at noon time.

About the Wife.

So, camp out at home and plan more beautiful things for your own and others happiness. But, as to the wife. That is another question. She has been shut in the house more closely than you have. You have been to the institutes and more or less come in contact with the outside world. This is also sometimes true of the wife, but more often not. So send her away for a vacation, a visit to the old home if she needs it, then surprise her with the neat looking place when she comes home. But regarding her vacation the Household Department of this issue will give hints. Read it with your wife.

A Farm Home With a Name.

While you're resting and playing, think up a name for the old home. Call it Wildwood or Woodside, or Hill Crest or Sunny Slope or Rose-lawn. The Maples (if you do make it true to name) Orangedale, Olivet, Wayside or any one of a thousand names which may be used. They have more than a sentimental value.

Don't Be Provincial.

But with the added love for your own little dominion and the realization that it is just a little the finest spot on earth, don't become provincial. Get as broad a view as possible of the rest of the world and grant others the right of having other "finest spots." A few good books, bought with some of the money a vacation trip would have cost, will aid in preventing the narrowing tendency.

Now, if you are one of the unfortunates, or fortunates, who have not been on a camping trip this year don't feel sorry for yourself, but try camping at home then write the Cultivator as to whether you think it a good plan.—C. B. Messenger.

CALIFORNIA'S BEAUTIFUL RESORTS.

This is the ideal season for outdoor camping. California abounds in healthful resorts, unsurpassed by any State in the Union, for beauty and accessibility. Within a hundred miles of San Francisco, are some of the most romantic spots to be found anywhere on the Pacific Coast where mountains, lakes, canyons and rushing streams provide ever changing scenery and the best of health conditions.

Southern California, while not so rugged nor varied in its environments, has beautiful inland and seaside resorts, which vie in attractiveness and restfulness with the far-famed tourist rendezvous of France or Italy.

The advent of the automobiles is a very important feature in promoting outdoor life. In its use pleasure and health are gained and knowledge obtained of California's attractions which can be gained, as readily, in no other way. With the coming of a better system of road making (speed the time) we shall bring to our State thousands of tourists who prefer this method of seeing California to any other. With out doubt, we have lost hundreds of visitors, within the past year, because the information has gone abroad that many of our roads are incapable of tourist travel by autos.

Smith's Portable Power Sprayer

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Pressure

1 3/4 H. P. Engine
240 Gallon Tank

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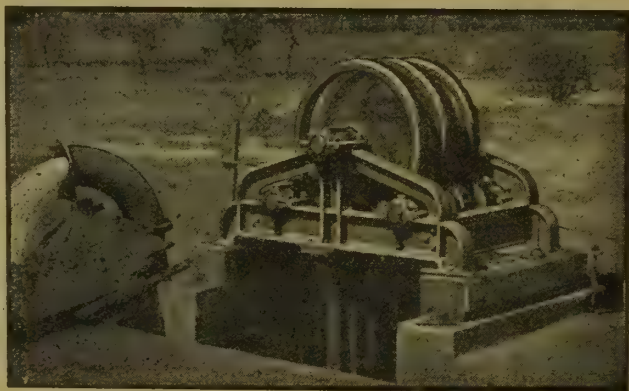


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Deciduous Fruit Culture

VACATION TIME.

WHAT can a fruit grower do to get away during the warm summer months and have a few days good time in the mountains or at the beaches? If he has a crop of mixed fruit, he will find no greater enjoyment than staying right at home and attending to business. During these days of scarcity of labor, it will keep him hustling to enjoy the good old summer time, for that is the only way he can do it. Anything that brings in a little cash must be utilized, especially if he is a small grower. The large grower usually has a trusty whom he can leave in charge and a few days absence makes very little difference. We do not know but what it is a good thing to go away for a few days in such cases and give the foreman a chance to try his mettle. At any rate it is as good an excuse for the vacation proposition as the small boy is for the circus proposition.

The Ranch Will Stay at Home.

Many farmers imagine that a few days away from home means ruin to the ranch. He forgets that the ranch will stay there and be run when he is dead. This staying-home habit is acquired. It is not natural. There are many things that can be done to make the vacation an easy matter. One item is the selection of crops. It is perhaps hard for a small farmer to select his varieties so that one crop will follow one after the other closely through the season. Few do this unless they are peddlers who raise their own stuff. It is usually a better paying proposition to devote the land to a few things of the best standard varieties.

There is always a lull in the work at some time. Then is the time to have the most trusty of the hired help used on the last job, if a permanent man is not employed, and take a run off some place. Things will look different when you return home even if you only stay away a week.

IRRIGATION.

The deciduous fruit grower has an advantage over the citrus grower in the question of irrigation. The former irrigates less frequently and has, with most varieties, a long period in which there is no fruit to irrigate. He simply has to see that the trees mature the fruit buds and keep in a thrifty condition. He can give longer irrigations with better results because the roots of deciduous trees grow deeper, hence the question of irrigation, while important, is not as serious a one as with the citrus grower. The latter must be "on the spot" with the water with fearful regularity; if his trees show the need of water, it is a sign that they have gone too long for the good of the trees. The soil in a citrus orchard may, upon examination, seem to be amply moist, but a few exceedingly hot days may cause the trees to suffer. The immensely increased evaporation will draw heavily on the surface soil which contains nearly all the roots of citrus trees. In the case of deciduous trees it is quite different. The foliage of the two classes of trees may evaporate an equal amount of moisture, but the roots of the deciduous trees have the advantage of lying deeper and being in a position to draw on a much larger area of soil. Such sudden and exhaustive draughts on the soil cannot be made as in the case of citrus trees. This simplifies

the work of irrigation to a very extent. It means that the deciduous trees have a subterranean reservoir of larger capacity than that of citrus trees.—J. W. Mills.

SULPHUR IN THE COOKED FRUIT

The real contention between fruit growers and the Agricultural Department will narrow down, or at least, to the amount of sulphur actually remaining in the fruit after cooking and preparation for market. The process of cooking removes a certain amount of the sulphur dioxide and the amount of fruit comes within the limit prescribed by the department. At this point we have a letter written by Curtis & Tompkins, chemists of Francisco to the Minnewawa Packing Co. of Fresno, and from them we quote:

"Experiments conducted in our laboratory for the past few months on sulphured fruit, and one particularly in keeping with questions asked by the meeting of the growers and the department before Secretary Wilson last day, has developed facts which we believe of sufficient interest to warrant distribution of the results to those concerned for whatever benefit they may derive from this work. A well known fact that cooked fruit contains a very small proportion of the sulphurous acid originally contained in the material, was the basis of an extended series of experiments under varying conditions, and with a large assortment of fruits, differing widely in the amount of sulphur dioxide contained.

"In order to ascertain exactly what percentage remained in the edible product, the following work, briefly stated, consisted of soaking the fruit for different periods of time, and in one case, the water so used was removed and subjected to analysis; the water was then added, the fruit was then added, the sulphur dioxide determined therein. In another series the fruit was cooked with the same water as in soaking, and the remaining sulphur dioxide determined.

"The result of these two determinations show but a small difference in the final result (sulphurous acid remaining in the cooked material), hardly enough to be practically considered, though clearly in favor of cooking with fresh water after soaking.

"Owing to limited space and lack of time to tabulate the entire work, four samples representing each of this and last year's pack have been selected to demonstrate the results which are here appended. It is clearly seen from these results that the sample containing sulphurous acid considerably in excess of the present limit of 0.035 per cent is reduced to figures below the requirements for the fruit is ready for table consumption. It may be further stated that practically all the sulphurous acid remaining is combined, and not in free state. Cooking the well-soaked fruit has developed the fact that sulphurous acid is retained in the final product, than when the fruit is subjected to cooking with previous soaking, even though it is cooked to the same degree of softness.

"Throughout these experiments the fruit was cooked just to a point where it was fit for table consumption, represented about 20 minutes for fruit soaked over night, and about one hour for the fruit not soaked at all with the others in like proportion. In no instance did the fruit lose its shape from excessive cooking. It must be remembered, however, that the results obtained are correct only in a general and practical manner. The amount of sulphur, the age and kind of fruit, the time and manner of cooking, etc., would alter the results to a certain degree.

"Inasmuch as a very small fraction of 1 per cent of dried fruit is consumed in that state (without cooking,) it would appear that a favorable consideration of these facts should be taken into account in fixing the limitation of sulphurous acid applicable to the dried fruit trade."

Irrigation and Forestry

THE IRRIGATION CONGRESS.

The National Irrigation Congress, which will be held in Sacramento, Sept. 2-7 next, promises to be the most important of the liveliest debates in recent history. The management of the public lands is practically challenged both the supporters and the opponents of what is known as the Administration Policy. With reference to the public land and their respective positions on the subject here.

The question of how far the National Government should go in the disposal of the public lands is recognized as one of the leading questions of the American people, and the National Congress management wants it discussed because it promises that this shall be a Congress of live up-to-date issues. During the last two or three weeks letters and telegrams have been sent to the headquarters in this city to those who are especially prominent whose participation would make a debate of National importance.

Gifford Pinchot, United States Forester, has responded with the assurance that he will come prepared to debate with any man the Government's Forest Policy. Among others who have been invited to interest themselves, either by participating in person or by seeing to it that the issue is properly presented here, are U. S. Senator Burkett of Nebraska, Governor Frantz of Oklahoma, Senator Nelson of Wyoming, Senator La Follette of Wisconsin, Senator Spooner of Wisconsin, Senator Nelson of Minnesota and Murdo McKenzie, President of the American Live Stock Association of Colorado.

Among the opponents of Administration Policies who have been active in the matter of U. S. Senator Heyburn of Idaho, Governor of Wyoming, Governor Bucher of Colorado, Congressman Montague of Wyoming, Congressman Cushman of Washington, Senator Clark of Oregon, Senator Fulton of Oregon, Senator Patterson of Colorado, Senator Carter of Montana and Dr. J. M. Wilson, President of American Wool Growers' Association of Wyoming.

PRIVATE PROFIT vs. PUBLIC BENEFIT.

We have objected to National Government lands on the ground that they interfere with "the development and improvement of title." This objection rests on the assumption that the land in America must be privately owned, and operated for private profit. A queer situation we find ourselves in, truly, if this were consistently acted upon. School lands would be converted into privately owned lands; our streets, ways, public parks, public gardens, national cemeteries, experimental farms and gardens, sites of public buildings and all other public lands would be converted into private property. Government, in all its aspects, would exist simply as a renter or go-between of business. Fortunately, the American people are too sane to consider seriously such a theory. The man who recently proposed to turn the National Postoffice as a private venture was smiled at and forgotten. The point to be remembered is that while private enterprise and ownership have their place, public enterprise and ownership have theirs. The "development, and acquisition of title" in public property by private individuals is not a matter on which the public will grow enthusiastic.

FEDERAL "ENCROACHMENT" IN WESTERN STATES.

Stress has been laid by some upon Federal "encroachment" upon certain Western States occupied by National Forests. For instance, a map of Idaho, mutilated by cutting out the National Forest area, was exhibited at the recent Denver convention. Attention was called to the fact that nearly one-fourth of the State of Colorado is also in National Forests.

Well, what of it? If this area were actually subtracted from the State, Colorado would still be larger than the eight States of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New Jersey and Delaware. But this area instead of being subtracted from the State is being preserved from destruction and made available for the highest use of the people within and without the State.

IRRIGATION IN DINUBA.

This section of Fresno county is irrigated from Kings River by means of large canals which have diverted those waters, and the entire territory is under one vast system of irrigation, where the waters for irrigation are had for a minimum cost, and at less cost than of any other irrigated district in the San Joaquin Valley. It is not to be inferred, however, that irrigation is necessarily required to produce crops in this district, as grain crops are grown there in abundance without irrigation, and many portions of this territory do not require irrigation for the production of vineyard and orchard. Much of the land sub-irrigated and produces abundant crops

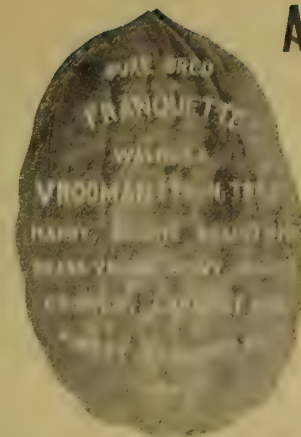
of all classes without any irrigation whatever, other than from the natural seepage of the land from the system of irrigation mentioned.

That Sparta proved ungrateful boots nothing in the present case. Happily for America, sectional rivalry within her boundaries is past. No section of this republic need grudge or fear the progress and prosperity either of New England or of the South. The welfare of these sections is the welfare of our whole nation. As Paul well said, "We are all members one of another;" and if one member suffer, all the other members must inevitably suffer with it. Do any imagine that the reclamation of Western deserts will give advantage merely to the occupants of those regions? Does any one doubt, on the other hand, that such a work will infuse new life and add new vigor and power to our whole Nation? Conversely, can any one doubt that the decay and ruin of an important section of our common country must infallibly weaken that country as a whole?

Great loss is claimed will result to grain and other shippers along the lower San Joaquin river because such a great amount of water has been taken out for irrigation that the barges cannot take away all of this season's output.

Growers in Imperial Valley have found great profit in their vineyards this season.

To Users of Compressed Air Pumping Plants
The Harris Air Pump Company's Twentieth Century Air Lift
 For Water and Oil. Nothing to wear out. No repairs. Easy to operate. Will increase your water supply 50 per cent. Records of Tests and Catalogues Mailed upon Request. Complete Plants Installed. Air Compressors, Boilers, Gas Engines.
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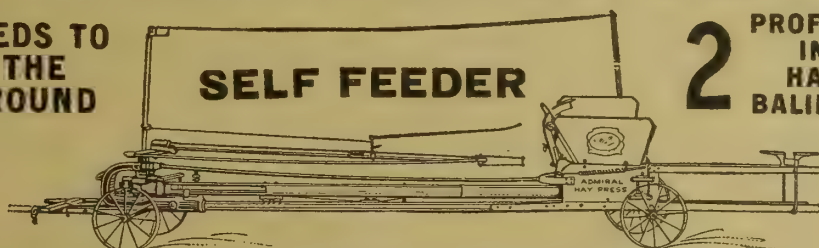
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2½ Tons per day for one week, 15 tons at \$1.50 net.....\$ 22.50

One month's earnings over the other press (26 days)..... 97.50

On an estimate of five months' work out of the year..... 487.50

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As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is Warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

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Wide awake farmer! Want the cream separator that skims the cleanest. It means more profit—better living. That separator is the Sharples Dairy Tubular—separates that's different.

Sharples Dairy Tubulars have twice the skimming force of any other



separators—skim twice as clean.

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For Sale Our Herd Bull

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As we have dispersed our herd, except a few heifers for home use, we are forced to offer for sale this valuable sire. We will sell him at a low price to a breeder who is in a position to give this bull a chance to make a record.

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Petaluma, Cal.

Live Stock and Dairy

A FRESNO SUMMER DAY.

THE SUN rises over the snowy Sierra peaks a livid coppery red, even while the early morning coolness lingers in the shade, out in the bright sunshine the direct rays are of biting pungency. Yet, no sickening languor creeps over man or animal. The colt in the breaking harness bucks merrily around and around the circle, as the trainer raises his voice in calling out the commands of Whoa!! and Get Up! The teamsters go out whistling, sitting sideways on the work horses; all work in hand is pushed with vigor for no one, except invalids and the idle, seem to mind the heat in Central California. Busy people work hard, eat well and grow fat in the summer time, even the children forget to have measles, scarlet fever and other childish complaints in the wholesome outdoor life they lead.

Cultivating a Cheerful Spirit.

The gong sounds for breakfast calling the family from the garden and piazza while Willie tumbles out of bed to make a hasty toilet. This young beaux whiled away the moonlight hours with a party of young people in the auto. Down he comes with a suppressed yawn saying, "It is hot!" "Yes!" replies the Wise Man, as he unfolds his napkin, "It is going to be a scorcher!" in a tone of melancholy. Both suddenly looked up as Madame rises and holds out her hand saying, "Broken rule, you both are growling over the weather; ten cents each for the poor of Fresno! Any man that must growl when he comes down into a cool dining room, where ice tinkles in the glasses and peaches and cream begins a breakfast of suitable hot weather dishes, should be thankful when he growls not to be worse punished than the price of a cheap cigar."

How I love the heat! The golden sunshine of midsummer. Heat! Glorious heat! The fruit, trees and vines rejoice in the heat. Heat is our best asset as it brings us wealth. Raisins made without heat, are skin and seeds—not dainty jelly—that requires sugar. Sugar is stored up sun-heat in raisins, stored to feed the people of less fortunate lands the gathered sunshine of California.

Alfalfa.

The morning heat strengthens and the horses and cows in the fields seek the shade of the willow trees along the creek. The older cows stand and chew their cuds reflectively and dream of the joys of a useful life of butter making. Into the heifers' minds comes the thought that maybe they will be champions. They all think of the cooling feed of bran and barley brew waiting at milking time and then rising to the present, swiftly switch off that useless fly or two that sits on their sides. They are not hungry! They are not obliged to wander in the sun to fill their stomachs! The horses are happy too, for have they not hay in that outdoor manger? The secret in keeping horses and cows strong and active during hot weather is to feed them enough, really one-half the animals sent out to pasture are not well nourished; they come into the barn when taken up for work with dry, harsh skins, instead of mellow, soft handling. As long as the alfalfa grows thriftily the cattle can live well but as soon as it stops growing

it turns bitter like lettuce and the stock lose their appetites. How do I know this? By tasting it. Alfalfa young and tender makes a delightful salad and is also good as boiled greens like spinach but as soon as it stops growing it ceases to be good.

Trees and Shade.

A tree has a temperature of about 45 degrees; it radiates to a certain degree of coolness in the summer and heat in the winter. In California it is said that in summertime we can hatch eggs in the sun and catch pneumonia in the shade. Trees are easily grown by putting in willow, cottonwood or poplar posts. If a block of fifty posts are put out in the winter, setting them in rows, 12 by 12, and making the rows ten posts long and five posts deep, against the prevailing breeze, a most enjoyable shelter will be made for the stock. These strips of trees add beauty to the landscape and will more than pay for the ground occupied by the firewood produced. Topping them at twelve feet high makes the shade deeper below for the cattle. Where it is not desirable to grow the trees, picturesque brush or palm sheds are built. These are built with trees barked for posts, cross rafted with poles and either brush or palm leaves are put over the top with stones or clods of earth on top to prevent them from blowing away. If a better shed is desired, chicken wire netting is used on the top and the palm leaves wired on as a thatch.

Water.

Abundance of fresh water should be on hand for the animals. The horses at work should be watered once or twice between meals. This often prevents colic, for a horse that comes in from the field too thirsty will often drink too much, when he eats his grain some of the undigested food will be carried into the intestines with the water and remain there to ferment and cause trouble. It is often forgotten that the horse has the smallest stomach of any of the domestic animals, surprisingly small for his size and for the bulky food he eats. Horses are often annoyed while at work with small flies that light on the eyes and if neglected will eat raw spots on the lids. Boracic acid in water should be used to sponge out the dust around the eyes every morning, at noon and at night; if the eyes are already sore, use it more frequently and buy a bit of leather fringe to place over the eyes.

Stables.

After the stables are cleaned out and the floors are well sprinkled with gypsum, close them up to keep cool for the horses coming in warm at noon. Removing the manure promptly and not keeping a lot of idle horses in the barnyard will help greatly to decrease the flies around the barn. I hope to see the time, when there will be no yards around the barns, for they are hard to keep in a sanitary condition, a mere entrance yard paved or asphalted for the stock to pass through to the barns and all the corrals when they stand any length of time, off at a short distance on ground that can be changed every year or two, will aid in suppressing diseases that spread by bacterial infection.

Fly Repellants.

The market is full of good fly re-

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ts to be used as a spray on the cows. These are made from the oil derivatives and are nearer in composition than they are in. I have used several and there is to be little choice between. I can assure you they do pay to use and, so better try one and buy a barrel of it for if once it pays for itself in the increased produced.

s. The little calves suffer more from than any other stock and as are well known to be carriers of se, it may not be going too far to they may at times spread white s. A good airy shed with ned windows, having board ers to close out the rain in win- time, make a good nursery of the les. Have well tamped earth s with six inches of creek sand on in this sand mix a sack or two ound gypsum. Then if you can a patch of "Blue Curly" growing r the mower over it and cure it bedding for the calf house. This curl is a common weed and s up after the grain has been ested over the land. Any old ornian will show it to you. The es will eat some of it, but never seems to hurt them. r the calves are six weeks old, them outdoors at night during summer time and keep them in ouse all day. Spray them daily the same spray used on the

tiny body. Under the shrubbery the sleepy monotones of the hens' voices are heard as they wallow in the dust. The horses and mules at work, plod— plod—slowly down the long, green rows of the vineyard with drooping heads. Nature seems to be holding her breath in the deadly stillness and waiting—waiting.

Sunset.

A soft sound comes to the ear from the deep-toned ranch bell; it gains in strength and volume and beats out its welcome full voiced call. The horses in the plows call out in joy to their mates and quickly are released and away to the welcome grain in their manglers. The cows rise and stretch and slowly file up to the gate for it is milking time. The men joke and talk merrily of their day's experiences as they go in to supper. The sun drops down a golden ball on the horizon. A slow movement of the air—a mere sighing breath in the trees—then a little more breeze and the "gentle sound of the wind in the tree tops" is heard, the "Minnewawa." The sweet melody of the wind in the tree tops is here once more! The birds begin to sing softly in the fading light. The siesta of Nature is over and she awakens refreshed. Slowly the sun sinks and the twilight grows, man and beast rejoice in the grateful coolness of a California summer night.—M. E. Sherman.

THE GENERAL SHAFTER HERD.

W. H. McKittrick, Executor for the W. R. Shafter estate, writes the Cultivator that he has decided to place the famous Shafter herd on sale at the grounds of the State Fair during the week of the coming Fair. This will afford an opportunity to secure some of this noted stock which will be sold at that time without reserve. This herd was gathered together by General Shafter without regard to expense, the only demand being quality. Of course, he had a pride in securing fine looking stock, but the primary question was, "is she a doer as well as a good looker?"

In this herd are some animals originally bred by Shields, Pierce and other of the best breeders and also some by General Shafter himself, and many of them have been prize winners. A detailed record of each animal will be sent on application to W. H. McKittrick, Bakersfield, California. The date of the sale, remember, is Friday, September 13, and the place is the State Fair grounds at Sacramento.

MILK STRAIN SHORTHORNS.

John Lynch, of Petaluma, one of the most enthusiastic breeders of Shorthorns, sends us the photo appearing on this page, of a bunch of young stock in pasture on his ranch. These youngsters are the get of F. Clarence, Orrick and El Capitan. And it is needless to say are all of the celebrated Lynch milk strain of Shorthorns.

They are beauties, and from the looks of the pasture in which they stand, we presume Mr. Lynch has room to produce a lot more like them.



Sonoma County Meadows

Fine Youngsters of the Famous Milk Strain Herd of Shorthorns of John Lynch

PROTECTING COWS FROM FLIES.

The Kansas Station recommends the following as an excellent preparation to prevent flies from bothering cows: Two cakes of laundry soap dissolved in warm water. To this mix one and a half pounds of resin, one-half pint of fish oil and enough water to make three gallons. Add one-half pint of kerosene when ready to use and apply with a brush or spray pump. Each cow should be given about half a pint at an application. It will be necessary to make the application about three times a week till the hair has become coated with resin.

For practical cow milking machine see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles.

SHORTAGE OF TEXAS CATTLE.

Word comes from Dallas, reports the South Western Stockman, that the Texas Cattle Raisers' Association, has completed an investigation of the number of cattle at present on Texas ranges with the view of finding whether or not a cattle shortage exists. The result shows that the number of cattle now in the Southwest has decreased from 10 to 60 per cent during the past five years.

The shortage in the Panhandle is placed at 95,000 head in the past five years; in New Mexico the number of cattle has decreased 60 per cent in

that time, and there is not a single herd of aged steers in New Mexico.

Indian reservation cattle have been increasing in numbers, but this is believed to be because the cattlemen are taking advantage of what they think will be the last free grazing year. According to this report, a real cattle shortage exists in the Southwest and in the course of a few years will seriously affect the market.

The Los Angeles Business College has just issued a handsome catalogue replete with valuable information. This superior school commands the consideration of young men and women desiring a commercial education.

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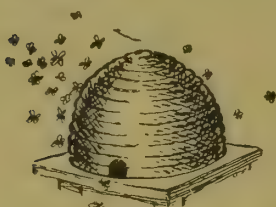
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The Ornamental Garden

SOME NATIVE MIDSUMMER PLANTS.

AT THE season when cultivated plants are requiring so much irrigation, it is interesting to note the ways of the wild plants that must fend for themselves during the long, dry season. In the valleys of California, summer is the dormant season, for much of the native vegetation. Still a considerable number of plants are active during the summer, finding it easier to resist drought than to compete with the crowded vegetation of the rainy season.

Beautiful Flowers.

Some of these plants begin activity with the winter rains but defer flowering until the summer months. The soap root—of domestic uses in early days—is an interesting example. The large soapy bulb sends up handsome green leaves with the first rains, leaves that grow and work rapidly, supplying the bulb with a new store of food. The leaves cannot survive drought and wither early, but from the underground store-house there springs up during the summer months a much-branched flower cluster several feet in height. The very slender green stems and buds are hardly noticeable until at about four o'clock in the afternoon each day, a few buds on each branch open into fragrant, white, lily-like flower, that by nightfall are dripping with honey and easily secure pollination by night insects.

The tiger lilies of our neighboring canyon bloom in summer but, are not drought resisting, growing only in moist places. One of our Mariposa lilies, rose purple, blotched and densely hairy riethin, blooms rather commonly in early summer on California hillsides. It has the sparse foliage and slender green leaves that are typical of many of our summer plants.

Yucca and Cactus.

The lilaceous yucca are in bloom until the end of July; besides their ample underground store they have the thick, hard-skinned, dagger-tipped leaves still more strikingly adapted to arid regions. Cacti belong to the same type and are generally summer bloomers. The mesembryanthemums and sand verbenas along the beaches have also leaves that store moisture and restrict evaporation and are able to maintain a vigorous summer existence.

A considerable number of attractive wild flowers can be found in canyons and on hillsides, during the summer months. There are several handsome members of the evening primrose family: *Godetia bottae*, with large rose-purple flowers that are sometimes mistaken for Mariposa lilies, is worthy of an established common name. So is its cousin *Clarkia elegans*. The yellow *oenothera* of the beaches and both the yellow and the white evening primrose of sandy wastes, belong to the group, so does the scarlet wild fuchsia (*Zauschneria*) that blooms throughout the summer and autumn. The fuchsia and several other showy summer scarlet flowers, the scarlet larkspur, the scarlet climbing *Pettstenmon*, the Indian pink (*Silene*), the scarlet mimulus along stream beds, have all beautiful adaptations for pollination by humming birds and are much frequented by them.

Several of the summer compositae have attractive flowers. Some of the nightshade family bloom the year

round; *Solanum douglassii* has pretty and very fragrant blue flowers, but the foliage is disagreeable, and the ugly "jimson" weed has huge white flowers that make a fine show in the early morning.

Worthy Extended Use.

This list could be much extended and from it a number of plants well worth cultivating could be selected. We have successfully introduced many plants from similar climates for this purpose, but in time our native plants, the shrubs especially are sure to be more appreciated. Perhaps the most handsome shrub that can flourish on the sunny slope of our



Wild Broom

California foothills throughout the summer is *Rhus laurina*, a shrub easily recognized by the pungent odor of its rather large, thick evergreen leaves. In springtime the leaves on the new shoots are red, but in maturity they are rather deep green and have a fine glossy surface, producing an effect of clean fresh foliage amidst the prevailing dusty gray or sun-scorched underbrush. The growth is rapid. I have seen a few small shrubs grown into a considerable thicket during the last three years and scattered shrubs have attained tree-like proportions.

The California broom—*Lotus glaber*—a lawn shrub or perhaps a woody herb, clothes acres of our foothills. The leaves are few and small but the thickly clustered green stems give a good foliage effect and under favorable conditions the plant flowers the year round. During the past winter and spring the plant grows very luxuriantly on sunny as well as on shaded slopes, but the intense heat of the early days in July scorched the more exposed plants badly. On shaded slopes or with a little irrigation they keep green the year round.

Young plants are easily transplanted. Two important summer plants, the wild buckwheat (*Eriogonum fasciculatum*) and the chamisal (*Adenotorna fasciculatum*) should do well in similar locations; the latter plant would be more likely to require irrigation.

Even the Sunflower.

In our newly laid out towns of California nature often takes a hand in mitigating the ugliness of vacant and unkept waysides. Her best effects are produced with the native sunflower which blooms profusely in summer and spreads rapidly in places that have once been upturned. Sometimes she uses the seeds of hardy exotics. Los Angeles used to contain many fine thickets of castor bean and tree-tobacco that had sprung up spontaneously. Coast towns are likely to be beautiful with the tree manna with its handsome rose colored flowers. There are some tall native compositae with many slender stems and lavender or delicate pink and white flowers open part of the day only, that look well in mass. The dry stalks of the mustard have a charm of their own when sufficiently massed, but they are always a menace of fire.

Tar Weed.

In the valleys of California thousands and thousands of acres of grasslands and other areas vacated by winter vegetation are in summer occupied by various native plants popularly classed as tar weeds. The true tar weeds are compositae with graceful slender stems and pretty yellow flowers; they are more common in interior valleys. In the vicinity of Los Angeles the most common cover of these fields is a low, gray-green very prickly spreading plant (*Eriogonum setigerum*) often known as turkey weed. *Trichostema* is another gray-green plant with very sickly, ill-scented foliage, but the most interesting blue flowers—*Trichostema* curls they are sometimes called—are also common.

Prepared to Fight Their Battle.

Our native summer plants must defend themselves against very hard conditions, against drought, intense heat and light, dust, animal attacks, and so on, hence their many defensive devices. In order to be successful they must be woody, hairy, sticky, resinous, prickly, spiny, ill-scented or otherwise disagreeable. We think they possess are likely to be obscured by wayside dust. But the amount of interest to the observer in plant ways. In the plant world as in human life, the individual is not often both clever and beautiful.

To enjoy midsummer plants in the full grace and beauty of prosperity Californians have only to climb their mountain meadows, but this is another chapter, a chapter read from nature's open book.

ALICE M. DAVIDSON

BERMUDA GRASS.

A writer in the Garden Magazine gives some good things on the Bermuda grass question. He says the best way to combat it is to cut the lawn very close, then rake thoroughly with a good sharp steel rake and cut out every runner that is pulled out. Sow white clover seed and rake lightly. The clover soon grows and hides the Bermuda. Keep very wet in winter and the Bermuda will die out, but clover will grow.

Clean out the weeds and burn them. Get rid of as many seeds as possible. Don't let them fall on the ground to furnish next year's crop. There will be seed enough in the ground from former years without new crop.

The Vegetable Garden

ATTENTION IN THE GARDEN.

the vacation tone pervades in the Cultivator this week, perhaps it should, also, in this department. Whether it does in this department or not, it probably does in the gardens. As a rule the vegetable garden at this season has a faded appearance which isn't attractive, and it has also ceased to be productive.

Such is the case this year this is a good time to plan ahead for next year. That is, are you growing just now nice tomatoes, cabbages, lettuce, melons, egg plant, beans and the hundred and one delicious vegetables and small fruits which add so much to midsummer comforts and to the ease with which the cook gets up her meals.

Yes, a more healthful diet cannot be had than one when there are plenty of vegetables. So plan a little for next spring. Wouldn't nice, if the vegetables look better to you than those wilted ones you have been buying from the Chinaman?

Make a list of those you are now growing for and think over about the ground they will cover. If you have a load or two of manure over that "patch" and wet it if you have the water, then plow or plow in. Let that land lie toward spring, then put in the beds and rows which you can plan while the desire is fresh in your mind.

Probably some of this year's projects have been of such value that they are worth saving. If so, save them and place in an envelope, store in seedbox till planting time.

POISON FOR RODENTS.

We are often asked for a good poison for gophers, squirrels and other pests. Carbon bisulphide is often expensive to use on a large scale. We now note this in Denver and Farm:

A treatment that has proven effective is the use of strychnine potassium cyanide. The formula is as follows: Dissolve three ounces of strychnine and one-half pound of potassium cyanide in one quart of water, then add two quarts of molasses and one teaspoonful of oil of wintergreen. Stir. Then place one bushel of wheat in a tight receptacle and pour the solution over it.

It should then be well stirred while the wheat is being sprinkled into the receptacle. Use four pounds of finely ground meal. The molasses renders the mixture adhesive, so that it will cling to the grains of wheat. The object of using the cornmeal is to absorb the superfluous liquid or syrup and make the grains of wheat to contain a larger amount of poison. Care should be taken that the proper proportions are used; that the mixture of potassium and strychnine is completely dissolved; that no water and syrup are used than the recipe specifies, as one bushel of wheat will not take up and carry more than this amount of liquid.

After the liquid has been poured over the wheat the dose should be stirred until all of the wheat has been in contact with the syrup and the poison is equally distributed throughout the whole mass. It should be the same day that it is prepared in order to obtain best results. The way to apply this is to take some

of the poisoned wheat in a tin pail and sprinkle about a tablespoonful of it in and around each hole. Do not leave it in lumps or bunches, as cattle or other stock might possibly eat it, although our experience shows that the danger from this is not great, as cattle have ranged without injury over the towns thus treated.

It is best to take a strip about two rods wide, set stakes at convenient intervals to avoid going over the same ground twice and also avoid missing any of the holes. When more than one person is operating the stakes may be set to indicate the ground gone over, the operators keeping about two rods apart and changing the stakes over to the outside as the one next to the poisoned ground comes to them. The poison seems to do its work within forty-eight hours.

Of course, it goes without saying, that poultry must be kept from the fields where this is used.

RICH SOIL—MORE PROTEIN.

In a bulletin of the Minnesota Station, influence of soil composition and fertilizers is thus spoken of:

The protein content and the composition of the dry matter of a list of forage crops and forage-crop combinations are given and briefly discussed. The dry matter and protein content of corn fodder at different stages of growth are shown in a table, as is also the composition of silage and that of corn smut.

It was found that corn fodder, timothy hay, rape, pasture grass and hay crops from mixed grasses were materially influenced in composition by the use of farm manures. Less fiber and from 25 to 30 per cent more protein were secured on soils in a good state of fertility than on similar soils low in plant food. Leguminous crops like clover, alfalfa and peas did not appear to be as susceptible to the influence of fertilizers in increasing the protein content as crops like corn fodder and rape.

An examination of a number of samples of clover, alfalfa, pea, bean and millet seeds of known quality showed each sample to contain two distinct types of seed, one of high and the other of low protein content. The high protein seeds were darker in color and more corneous in character than the low protein seeds. It is believed that by selecting seeds on this basis, forage crops of the maximum protein content may be produced in the same way as has been accomplished with wheat and corn.

Analysis of 18 samples of the more common weeds showed that many of them assimilate large amounts of soil nitrogen, and it was found that when they were harvested with grain crops the amount of nitrogen removed by them from the soil was often larger than that contained in the grain.

The dry matter of nearly matured rape was found to contain about the same amount of protein as clover. Rye fodder, prairie hay and millet showed about the same general composition in feeding value as timothy hay produced under similar conditions and cut at the same stage of growth. Pasture grass and hay from mixed grass seeds and some clover contained more nutrients, especially when grown on well cultivated and manured land, than timothy, red top or blue grass alone.

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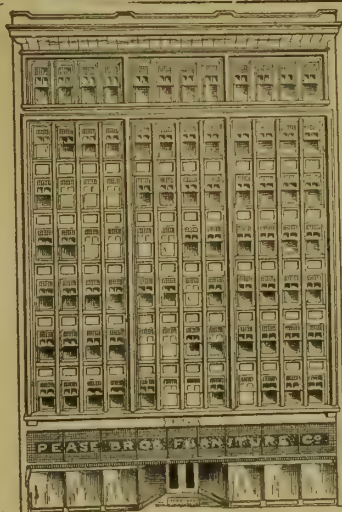
It will pay you to know more of our sugar plantation profit-sharing plan. George Gould, speaking of this section, says: "The great Southwest will surprise the world in the next ten years with its development." Let us tell you more.

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California Horticulturally

SACRAMENTO AS A SUMMER RESORT.

IT is probably a heritage from our old nomadic ancestors which impels mankind with the desire for a change of location. Being somewhere, we naturally wish to be somewhere else. This instinctive desire for change becomes intensified with the opening of the spring months and reaches its culmination in the summer. This makes business for railroads and other transportation companies and is the life of the hotels, especially the country hotels, and for some people is a good thing. Yet, after all, the great pleasure to be derived from a summer outing is in getting home again, in the enjoyment of which we soon forget all the discomforts we have endured and cajole ourselves into the belief that we have had a really delightful time.

People from the mountains come to the valleys, people in the valleys long for the mountains, people on the coast seek the interior and those in the interior long for the cool breezes of the coast, anything different from what they have.

Why Leave Sacramento Valley.

Except for this instinctive desire for that which they have not, we cannot understand why any one should wish to leave his home in the Sacramento Valley for a change. Nature here has been lavish of good things and, while there are occasional warm days, these are rare and the heat is never excessive. In fact, we have here all that is usually sought in the summer resorts, and do not have to go from home to enjoy it, but it is with us all the time and we have become so accustomed to it that we cannot appreciate it. A change is, therefore, sometimes a good thing, as it enables us to come back and really enjoy what we have by contrast.

From Sacramento to Redding, and beyond to Sissons, the whole valley is intersected with beautiful streams filled with many varieties of fish, among which the different species of trout are abundant. These give unlimited chances for sport in fishing, boating and swimming, and game birds, which are found here in unlimited numbers, make it the sportsman's paradise. The banks of these streams are usually lined with trees and shrubs, while the ground is carpeted with softest grass. For those who enjoy camping in the open, nothing better can be found, while for picnicking the whole length of the State can offer nothing better. Leaving the lower valleys, we reach the foothills and here come to waterfalls, gushing mountain streams, shady nooks and cosy dells. A little higher, and the pines break upon us with all their grandeur, while the rolling hills, verdure-laden, furnish the lover of nature a picture unexcelled elsewhere on earth. All these attractions are within a few miles from any point in the valley, and many of them directly at our back door. They are appreciated, too, not by those who see them every day, but by those who come from a distance to see and enjoy them.

Don't Let Familiarity Breed Contempt.

Even the city of Sacramento has many claims on the public as a summer resort, and did the people who live there fully realize the advantages they enjoy over most localities in soil, climate and scenic surroundings, and would only make the best of them and let the outside world know what they have, there is no reason why the Capital city should

not become one of the pleasure resorts of the United States, not alone for the summer, but also for the winter. During the past summer, while the East has been sweltering, hundreds of people have suffered and died from the excessive heat, there has not been an uncomfortably warm day, while the evenings are perfect with their cool, balmy air, and the nights are always cool enough to guarantee refreshing sleep. It is a city of gardens, ever green, for abundance of moisture in the summer and the mildness of the winters assure perpetually green lawns and blooming shrubs. In fact, the city is like a vast park with residences scattered through it, while numerous well-kept plazas afford breaks in the settled portions and furnish playgrounds for the children. Other attractions here are the great river which bounds it on the west and the south—the Sacramento—while another river, the American, lies on the north. Here are chances for the pleasure seeker that few points offer, and which people are now learning to appreciate. A few miles away are the foothills and a short distance beyond the high Sierra Nevada range, and all within a few miles of the State Capitol. The opportunities for pleasure here are unlimited, and it is only a question of time, and a very short time at that, before they will be fully appreciated. The older settlers have lived among their grand surroundings so long that they have become familiar with them and it is said that familiarity breeds contempt. Certain it is that familiarity breeds indifference, but Sacramento is rapidly growing and people are coming in, to whom all these things are new, strange and pleasant. These are already making known the claims of our beautiful State capital upon the public attention, and before long, while many of the inhabitants may leave for a short change in the summer, many, many more will visit Sacramento to spend and enjoy their summer outing.—John Isaacs.

HOW PARCELS MAIL PACKAGES ARE HANDLED.

Consul-General R. P. Skinner, of Marseilles calls attention to the parcels post in France, writing:

It is unfortunate that, although the United States Government has parcel post conventions with twenty-nine different political divisions, including Germany, Norway, Belgium and Great Britain, no such arrangement has been made with France. From this country, on the other hand, it is possible to send parcels to almost every country in the world, except the United States, to weigh varying from 6.61 to 11.02 pounds. Parcels for domestic delivery are similarly accepted upon the following terms:

Three kilos or 6.61 pounds, 12 or 15 cents, dependent upon delivery at railroad station or domicile; 6.61 to 11.02 pounds, 16 to 21 cents; 11.02 to 22.04 pounds, 25 or 30 cents.

Contrary to popular opinion in the United States, parcels sent by post in this manner are not deposited at the various postoffices, but are accepted at the railway stations, city railway offices, and offices of the subsidize steamship lines, acting as agents for the State.

WANTS IT TO FOLLOW TO OHIO

I will attend to a long-neglected duty by sending pay for your good paper. I am thinking of going to Ohio, but will want your paper there.—MR. EMILY SHAW, Escondido.

With the Citrus Growers

IRRIGATION OF GROVES.

old question of irrigation is new with the orange grower, though methods change but when a system is once established new things come to light and things are new to the new grower.

and Practice.

a well established fact that irrigation in any place does not always

FUMIGATION vs. SPRAYING.

During the many years in which the heated controversy over the relative value of spraying and fumigating, the Pomona Experiment Station had experience with the two methods and found that spraying as done there by one of the best operators in the country was a complete failure. In fact, it was worse than a failure for the reason that it not only did not exterminate the scale but in-

furrows down in the bottoms and practically filled the furrows with loose dirt without disturbing the soil at any other place.

MARKET OPENING FOR AMERICAN ORANGES.

Consul Chapman Coleman, of Roubaix, calls attention in the following report to the prospective market for citrus fruit:

Our excellent California and Florida oranges are not in evidence in the markets of this part of France, although they should, it would seem,

More than one-fourth of the lumber cut each year in the United States is made into boxes, crates, barrels and other packages. A great majority of the lumber thus employed is destroyed after the box or package has been used but once. This has led to the too frequent use of boxes of inferior quality, and one of the greatest drawbacks to American trade abroad is that the goods are too often shipped in cases that are not strong enough to stand the trip half-way around the world.—Anaheim Gazette.



A Fruiting Spray of the Eureka Lemon at the San Dimas Nurseries

but on theoretical lines. We are at that we must irrigate in deep furrows so as to get the water deep into the soil and keep the surface dry as to obviate evaporation from the surface that will become wet. The deep furrow system is not used in any kind of soil. It is a thing to strive for in most soils, but few of them are used in any kind of soil. It is a furrow which will not run to the top. We are told that we must not allow any water to run from the lower end of the furrow. This is a thing to strive for in most of us do, but in practice, we will sometimes get way from the most careful irrigator. It is simply within the ability of the best operator to irrigate any considerable area and have the water so evenly distributed as not to lose any. It is that a small stream that will reach the lower end will soak up much water as when part runs off, but in order to make the water do so, every part of the day, it might, would cost more than a waste of water is worth. The water may be set so as to just run off in the morning, and if it is a warm day it will not reach the end by several trees. If it is used so as to give no waste during the day, it will run off at night in considerable volume. The small operator may be able to successfully control the flow for the different periods but the larger grower can only approximate it. The most economical method is to have a strip of alfalfa at the lower end for the family or irrigate the lower ends of the furrows by the check system. On terraced and steep slopes where trees are planted on contour lines this can be done.

jured the trees. The operator endeavored to do a most thorough job and overdid the work, soaking the ground with the emulsion and got too much on the foliage and bark. Some of the trees which had up to that time been green and vigorous turned yellow and dropped most of the leaves and never did fully recover. The company which did the spraying was promised a testimonial. The company never received a testimonial.

There may have been much spraying done which did not damage the trees, but we do not know of any orange groves which have been sprayed year after year that are not more or less injured. The fact that there is danger in the operation is enough to condemn it. There are many conditions which seem to enter into the successful operation of spraying and failure to observe any one of them may prove a great injury to a grove.

We found that it was impossible to reach all of the scale as, for instance, on the stems of clusters of oranges. In all such places scale were found in abundance. The following season the trees had an abundance of scale on them and fumigation was necessary.

A USEFUL TOOL.

We recently saw in a Redlands grove an attachment behind a cultivator that did excellent work. It was a wagon tire bent in the shape of the letter W and fastened so as to drag by the three upper points of the W. It was so attached that when the horses walked between the irrigation furrows, the two lower points of the W passed over the furrows. This dragged the ridges on each side of the

find ready sale here at certain seasons, when a good quality of oranges of French and other European origin has not yet matured. No oranges are marketed here in the summer and autumn. With the beginning of winter they first appear, but are sour and of poor quality, generally, and not until March are good ones to be had.

Certain varieties of California and Florida oranges mature as early as September. The opportune time for the sale here of this fruit, of which such abundant crops are now grown in the United States, would be during the six months from September to March; and the greater advantage would inure to the earliest practicable shipments of a good article. This opinion is based on the assumption that the fruit can be gotten here in good condition, and it is confidently believed it can be, and that it is offered for sale at a fair price.

A few drops of lemon juice added to the water in which rice is boiled will whiten the kernels.

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VACATION ON THE FARM.

How many farmers take a vacation? How many understand the value of a few days recreation for the overworked wife, sons and daughters? When the harvest time is over, when the fruit and vegetable crops are marketed, if the tired household would pack the wagon with camping paraphernalia and go away for a week or so to some healthful canyon, to the beach, or to some mountain resort, and there forget all about the worry of life in red and pleasure-seeking, how beneficial to all concerned would such a vacation prove.

The farmer needs variety as much as the professional or business man. His family needs it too, for the daily grind of the farm robs it of much of its genuine satisfaction and worries wife and children to an unbearable extent.

A few days spent under changed surroundings recuperates the wasted energies, reincarnates the ambition of the family and brings it back to labor with a zest which nothing else can give.

Time thus spent is money earned in the end, for it creates better health conditions and inspires renewed attachment for the home and things which belong to it.

Take a few days away from your daily grind, Cultivator readers, get into closer touch with nature's health restorer, the mountain air, or the sea breezes, and our word for it you will be happier, live longer and have less trouble in contenting your sons and daughters on the farm.

THE WHITE FLY CAMPAIGN.

Realizing the extreme gravity of the situation as it relates to the invasion of California by the White Fly and the necessity for radical action on the part of the State authorities, viz., the Horticultural Commission and the Entomological Department of the State University, the Cultivator last week addressed letters to the Hon. Elwood Cooper, asking him what action the Horticultural Commission is going to take to eradicate the dreaded pest from California. At the same time a letter was addressed to Prof. Wickson acting director of the Agricultural College of the State University propounding in substance the same questions as were directed to Commissioner Cooper. Both these officials have made reply and these appear in the following columns. It is important to note that everything possible is being done by the State authorities to control the spread of the White Fly and to eradicate it entirely from California.

I write at once upon receipt of yours of Friday, which has just reached me.

I have never heard any proposition that the White Fly work shall be sought for the University. Prof. Woodworth has said what he believes about the inadequacy of the effort made at Marysville, openly and above board. It is his duty to do that and the citrus interest must judge whether his position is well taken or not. He has also said freely what he thinks ought to be the character of the work which the State should undertake to stamp out this pest if possible. It is fortunate that the insect has appeared so far in two rather isolated places and is, therefore, perhaps capable of being stamped out if the right kind of work should be done. It is Prof. Woodworth's duty to give the people advice as to the situation and what it requires.

I am not aware that anything has been said and certainly nothing has been printed by us which insists or even suggests that this work should be given to the University. That is a matter which the Governor of the State must determine and I suppose he will be influenced by the collective judgment of the citrus interest which is threatened. If the demand is that the University shall undertake the problem it will probably not decline if adequate funds are furnished. If the Governor places it in the hands of the Horticultural Commissioners, the attitude of this department of the University will be just as it has been, viz.: to ascertain and state facts and to express opinions, so that the great citrus interest may know just what is being done and enable it to judge of its efficiency. We can have but one standard of work and that is adequacy and efficiency. We are willing to co-operate along that line with any agency. The Governor of the State may constitute and we are willing to be corrected and criticised along that line just as we shall expect to correct and criticise others. Anyone who suggests that the attitude of the University toward this undertaking is prompted by selfishness or by personal considerations, simply does not at all appreciate the menace which now overhangs our citrus interest nor the character of the work which must be done to avert it. The situation is altogether too grave to be trifled with and those who are trying to impeach the University experts by charges of ambition or selfishness have no conception of the seriousness of the problem nor of the attitude of mind which should exist towards it.—Very sincerely, E. J. Wickson.

I am in receipt of your favor of the 16th, inst., asking for information relative to the White Fly, its present area, work already done by the State Horticultural Commission and measures which should be taken for its future control.

I take pleasure in giving you this information, as I fully realize the danger from this pest, and the necessity for its control, but at the same time I would strenuously guard against encouraging any feeling of panic which some alarmists are endeavoring to raise on account of it.

The first information received at my office relative to this pest, was in a letter from Mr. George W. Harney, County Horticultural Commissioner of Yuba county, dated May 12th, which was accompanied with specimens of the supposed White Fly. Immediately upon its receipt Mr. Edward M. Ehrhorn, the entomologist of the State Commission, was despatched to ascertain how great the danger was, to obtain further specimens and to determine whether it was true *Aleyrodes citri*.

We have a number of *Aleyrodes* in California none of which are very serious, and we hoped that this might prove to be one of them, as the adults of the family very much resemble each other, and as this was a new species in our State. While we feared the worst, we hoped for the best, and in order to be certain, specimens were sent to experts at Washington who at once pronounced it true *Aleyrodes citri*. In the meantime, in order to be ready for action when the identification was complete, agents from this commission were dispatched to Marysville, with instructions to make a thorough investigation in regard to the area infested, the plants affected, the number to be treated and such other details as would be needed in active work. As soon as positive information was received, and there was

no longer doubt as to the nature of the pest, active work was commenced. There was but one thing to do, and this was suggested by Prof. Woodworth, of the State University, whose views were in perfect accord with my own at that time and that was that all infested trees, and such might harbor the fly, should be defoliated.

Of course, there were difficulties to be met and overcome. Where there are several thousand people to deal with, and it is proposed to destroy their property for the public good, it requires much diplomacy sometime, and in a few cases coercion. The State Commission has no authority, under our law, to destroy any property cannot order any tree rooted out or burned, though the general impression seems to be that it possesses despotic powers. It has the power to quarantine an infested section, but can go further; we were, therefore, compelled to go through the County Board of Horticulture, we found in Mr. Harney, the active member of the Board, an active and willing worker and his efforts we owe much for the success of the work, which was carried on under directions from myself, through agents of this commission. We have been kept constantly in the field, so that as there was any active work to be done, and have not been without one or more representatives in the infested district, except for a day or two at a time, when duty called our men away only to return at the earliest moment.

Now, in relation to the thoroughness of work which has been done, I quote the following report from Marysville, dated July 15th.

"The White Fly pest practically has been terminated in Marysville. No tree or plant known to furnish food for the fly remains in possession of its foliage, so far as Horticultural Commissioner Harney has ascertained.

"A systematic house to house inspection has today to find any stray leaves on citrus trees.

"Harney estimates that 7000 trees and plants have been denuded or destroyed in the city."

When it is considered that within a period of two months, we have identified this pest, met and overcome all the objections raised by property owners against destroying their trees, carried through and won cases in the courts, I do not think any unprejudiced person will claim that we have lost time in the work, and I will assert that unless he possessed a magician's wand and could accomplish the work by the hocus-pocus process no living man could have been more expeditious.

And now in regard to the thoroughness of work, we have the evidence of Prof. Warren Clark. Prof. Clark has been connected with the University of California for many years and well known for his judgment and reliability. For several years past he has been stationed in Florida where he has had opportunities of studying the White Fly, and is hence somewhat of an authority on the subject.

"I have been in the State only six or seven months and having had considerable experience with the Florida White Fly in the Southern States, naturally I was interested in conditions in Marysville. First I found what had been well known some time ago, that the pest in Marysville is genuine Florida fly, and I next found—and I am glad to find—that the State Board of Horticulture had adopted the best policy of extermination known—the removal of the food of the insect at this stage of its life.

"The State Horticultural Commission has done business in grand shape. The orange, persimmon and other trees are being literally skinned of foliage—absolutely cleared—and this is necessary if the fly is to be destroyed."

I do not think that any stronger indorsement of the work of this commission could be asked and it will appeal to every man who has not ulterior motive in discrediting it.

The White Fly is not spreading. It is confined, so far, to two points of infestation, the original, and it has never spread out of the locality in which it was first introduced. It was brought into Marysville on stock smuggled by the inspectors years ago and so far is confined within the limits of that city. The second point of infestation is near Bakersfield where it was introduced by W. S. Tevis on Florida stock some two years ago and here it is confined to about hundred trees and has not spread out of original area. These facts argue strongly against the efforts of those interested parties who are now endeavoring to create a panic in Southern California, and would have the citrus growers believe that the discovery of the White Fly at Marysville was a Pandora's box, out of which untold ills were about to pour upon them.

There is danger from the White Fly, great danger; were there not, the efforts made by the Commission to stay its spread would be unnecessary, but when we consider that it has been known to be in Marysville for the past three years and has not spread outside of that town, it is likely that it will take a sudden jump at the date of over five hundred miles to reach the orange groves of Southern California. Unless spread is checked, it will undoubtedly reach them at some time, and when it does, will cause great damage, but while it has been at Bakersfield for two years or more and at Marysville for a much longer period, we may certainly give ourselves no uneasiness if it is not entirely eradicated within twenty-four hours.

With regard to future work, so far as I have the shaping of it, the pest will be met with constant vigilance. We have got first, to get it under control, which our work has done so far. Then watch it carefully and see that there is no further outbreak. A system of the most vigorous

tion must be maintained and every plant which it appears be immediately destroyed. Known means to check its spread must be and this work should be kept up until we every reasonable assurance that there is not tige of the pest left in our State. This is plan of action now being worked out by the Horticultural Commission. In the mean- the citrus growers of California may rest ed that no effort is being spared to eradi- his pest, that it is now under full control, hat there is no more danger of its appear- in the orange sections, and perhaps not so than if it were still confined to Florida.

Ellwood Cooper.

are in receipt of the following from A. G. Hall, Secretary and General Manager of the Protective League:

ant to thank you for your timely article, "To Get Busy," in your issue of August I was at Marysville before the defoliating, and have kept in close touch with all that been done toward the eradication of the White a California. There were serious defects in

the Marysville case, the most serious one, however, was the time lost before the actual work began, allowing the fly to take wing before the cutting back was fully completed. This was partially caused by the proposed resistance to the order to cut back trees. It took a great deal of discussion to show the people of Marysville that the cutting back of orange trees did not ruin them, and they will soon be surprised to learn that in most cases the cutting back will prove an actual benefit, outside of any consideration of the pest to be destroyed.

Brush was thrown in the streets for the city to haul away, but experiments made on the ground tended to show that eggs and larvae were killed on leaves drying on the brush, before the brush was actually destroyed.

One locally noted gun fighter, after threatening the agent of the State with dire vengeance, was told that the notice had been regularly served, and that his trees must be cut at once; with an oath he declared the State should not cut them, and with a saw proceeded to do the work himself. His haste and anger furnished the picture, shown in Circular 32, as a case of improper, careless work.

No one knows, who was not in the midst of the work at Marysville, the rebuff and trials of those who were obliged to enforce the order for defoliating, and instead of criticism, they should have had the support of all, and doubtless would if the practical part of the work had received as much attention as the entomological feature.

Cutting and burning were necessary at Marysville because the pest was on many food plants and some Privet hedges—and citrus trees generally throughout the city.

The Bakersfield incident is practically closed, before it began, so to speak; a very different proposition from the one at Marysville. "Practical hard-headed men" had a hand in it and one of the best of them, Mr. Carnes, had charge of the work and arranged the programme.

I have not written with a view to criticise in mind, but have mentioned two or three features of the difficulties of the past to show you how well timed your article was.

The State by its appropriations supports the Horticultural Commission, as it does the State University, and the State is entitled to the best efforts of both.—A.G. Kendall, Sec'y & Mgr. Citrus Protective League.

News of Country Life in the Golden West Southern California Northern California

AGRICULTURE.

chella hopes for an output of ears of onions.

ltry raising has increased in Joachella valley.

Reclamation Service reports Colorado now discharging 49,- second feet.

chella sweet potatoes are in the of harvest time which will con- until Christmas.

Pomona Fruit Growers' Ex- re has plans for a new and com- ous packing house.

bonds for Newbert Protection ct near Santa Ana, carried at ection last week after a bitter

ta Ana is still wrestling with ugar factory problem, not yet g raised \$100,000 bonus re-

California Vegetable Union ontracted to ship all the toma- of the La Habra Vegetable ers' Association.

American Beet Sugar Com- s dump near Garden Grove, has t operations and beets are be- shipped to Oxnard.

shortage on ice along the tern route by which green fruits usually shipped is bringing many e green fruits through Southern rnia.

re expensive to fatten hogs w is the heading of an article in Imperial Standard. The in- ad expense being due to the r prices of grain.

Bernardino is swelled up and agging over the biggest cucum- a record which she has grown. measures 20 inches in length and inches in circumference. Its t is 4½ pounds.

immense hay crop of Imperial cked up yet to be baled owing arcidity of labor. Farmers in all of the valley are stacking hay g for cooler weather and re- of laborers from the beaches.

work on the Laguna dam Yuma, is going much slower is time owing to the fact that y 200 men have been laid off, ount of shortage in the funds. Santa Ana Development Co. is stitute proceedings in court for uitable adjustment of the irri- a supply of the Santa Ana river. is said to be a contest between g interests of Orange and River- ecounties.

HORTICULTURE.

Over a half-inch of rain fell last week in the mountains back of Santa Barbara and Redlands.

A writer in the Riverside Press says that the output of almonds this year will be larger than heretofore.

Mr. Young, a fruit grower of Fullerton, reports the coming orange crop of his section as estimated lighter than usual.

Walnut growers are puzzling over what price to name on the coming crop. Some maintain that 15 cents will be reached this year.

These are busy days for the Horticultural Commission of San Bernardino county, whose fumigating outfits are daily, or nightly rather, in operation.

W. E. Pedley, of the San Jacinto Land Co., says the plan of making an immense reservoir of Elsinore Lake for storage of irrigating waters will in time become a reality.

The Anderson-Barngrover Co. are continuing their lawsuit and are now entering suit against the Anaheim, Mountain View, Los Nietos and Ranchio Associations.

The Whittier and East Whittier Vegetable Growers' Association is expecting mammoth returns from the 500 acres now planted to tomatoes. A crop of 4000 tons is expected.

Thunder showers are being experienced along the mountains near the Imperial valley and the humid condition of the atmosphere prevails which brings the hot air close to the person.

The Pomona Times suggests that all orchardists familiarize themselves with the White Fly and ever be on their guard and ready to report any suspicious condition to inspectors.

Secretary Andre of the Santa Ana Walnut Growers' Association reports the result on a postal card vote of estimates of walnuts that the crop will be materially larger than earlier anticipated.

Calexico has a new melon growers' association organized for the next season's work. The following are the directors: Frank Thing, Sidney McHarg, W. E. Hixon, Edward G. Wright, J. E. Peck.

The Walnut Growers' Association of Southern California will meet in Los Angeles in September to set the price for the coming season. Its members are somewhat concerned as to the effect of the new trust law.

AGRICULTURE.

Great damage was done in Western Yolo county by field fires.

Palo Alto city trustees have ruled out dairies within the city limits.

Tulare county has had another twenty-five hundred-acre field fire.

Colusa county had the first exhibit established at the State Fair grounds.

Thousands of bales of last year's hops are being stored at Healdsburg.

Hop picking is in full swing at Ukiah. One cent per pound is being paid for the picking.

The yield of oats, barley and wheat in the Ukiah section will aggregate about thirty thousand bushels.

Marysville levee commissioners are asking bids for improving levee on east bank of the Feather river.

The total valuation of poultry in Santa Clara county is \$102,000 according to the assessor's report.

Meridian creamery started last week with new machinery. Twelve hundred cows furnish it with butter fat.

Irrigation of beets and alfalfa still continues at Gridley though the water is going lower in the ditch each day.

The reorganization of the irrigation system of Eastern Butte county, especially about Wyandotte is under consideration.

The Union says that Sacramento will be able to accomodate its thousands of guests during the great Irrigation Congress.

The State grange of California meets in San Jose, October 1, 2, 3 and 4. The committee is busy with plans for entertaining delegates.

Land owners below Colusa want the State to assist in closing the breaks in the Sacramento river opposite Kent. The cost of closing will be about \$30,000.

Ukiah wool growers are experimenting in shipping their own wool to manufacturing centers and are receiving better returns than a local buyer will offer.

Exhibitors who have taken their own laborers to Sacramento to install exhibits have found great difficulty owing to the interference of the Labor Union. Colusa county was unable to get electric wiring and painting done because the carpenter who accompanied the secretary and did the carpentering was not a member of the Union.

HORTICULTURE.

Lodi is canning melons.

Stockton is planting coffee beans.

Turlock grapes are going out in large quantities.

Grape growers want help in the vineyards of Woodland.

Santa Clara prunes are being quoted on a five-cent basis.

The first car of Bellefleurs at Watsonville was forwarded August 22d.

Table grapes in the San Joaquin valley are running from \$30 to \$40 per ton.

The dried fruit industry seems to be recovering slowly from the sulphur scare.

Apple shippers at Watsonville are preparing for a bigger season than they had last year.

There are eleven experimental vineyards in California in charge of Prof. Geo. C. Hussman.

Yolo county grape growers recently held a meeting at Woodland to discuss the labor question.

A dearth of telegraphic news from marketing centers is embarrassing Watsonville apple growers.

Fifty Russian fruit cutters went on a strike in the Griffin & Skelley Fruit Cannery, Fresno, last week.

Peach dryers have nearly completed their work at Rucker near San Jose, and are working on prunes.

The Santa Fé and Southern Pacific have cut the freight rates of wine grapes for all shipments within the State.

Fig packing in Sutter County will begin about September 1st. Prices it is claimed will range about two and one-half cents per pound.

Fresno Republican reports the belief among raisin growers that Armsby & Company is the leader of the bears in the raisin market.

The entries at the State Fair have been so great that some firms have been compelled to construct buildings for their own exhibits.

No more ice furnished this season for fruit shipped from Vacaville, is a notice not to the taste of fruit shippers of Solano county.

A petition is being circulated among the fruit growers of Lindsay, asking the Board of Supervisors to prohibit the importation of second-hand fruit boxes to Tulare county orchards.

PER
2 BUSHEL
SACK

\$1.90

PER
2 BUSHEL
SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by all largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis Worlds Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland.
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis and Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

Beef Scraps Raw Bone

GUARANTEED ANALYSIS:

Protein.....65%
Fat.....8%

Made of Cooked and Dried Livers, Lungs, Melts and Clean Scraps. No fertilizer ingredients in these Beef Scraps.

GUARANTEED ANALYSIS:

Protein.....25%
Phosphates.....45%

Made of Clean Beef Bones, surplus fat removed. Cleanest Raw Bone on the Market.

Pure, Clean Animal Matter Poultry Foods

WESTERN MEAT COMPANY SOUTH SAN FRANCISCO CALIFORNIA

Lincoln Avenue Poultry Yards

Capt. Mitchell's S. C. White Leghorns

Utility birds of the highest grade. They will average from 150 to 280 eggs per year. The eggs will average 2 ounces and over in weight, with smooth, white shells.

Just a few breeders left at half price. **Positively no culls.**

Carl C. Curtis, Owner

Ranch Mirasol

Lincoln Ave. and Ventura St., Pasadena, Cal.
ALTADENA CARS

A GOOD TONIC ACME ROUP CURE CURES

FEED TO YOUNG CHICKS WILL KEEP THEM HEALTHY AND VIGOROUS; THE OLD FOWLS WILL MOULT QUICKER AND EASIER; PULLETS WILL LAY EARLIER AND LONGER

LEE'S EGG MAKER

IS THE BEST TONIC MADE

LEE'S LICE KILLER

IS GUARANTEED

HENRY ALBERS CO.

315 SO. MAIN, LOS ANGELES

Beef, Blood and Bone Will Make Your Hens Lay

This is not a medicine but a high grade nitrogenous food. Write for free booklet, "How to make Hens Lay." Our Poultry Foods are sold by all local dealers and manufactured solely by

The Pacific Guano and Fertilizer Co.

Also Pioneer Manufacturers of High Grade Indiana and Yolo Sts., San Francisco, Cal. Fertilizers. Write for our free booklet, "Farmer's Friend." Valuable to all farmers and ranchers.

Profit in the Poultry Yard

We solicit short articles of a practiced nature from the fancier and utility breeder, giving their experiences with poultry. All inquiries pertaining to feed management, disease and its prevention will be answered through these columns.

CONVENIENT SCRATCHING PEN.

IN THIS issue we are going to give our readers some labor-saving hints for the poultry yard. We always insist that if we arrange for our fowls to be comfortable and contented and yet make them work for what they get we will have better results; at the same time we will enjoy our work in the poultry yard better and feel that the birds are not a burden, but a comfort.

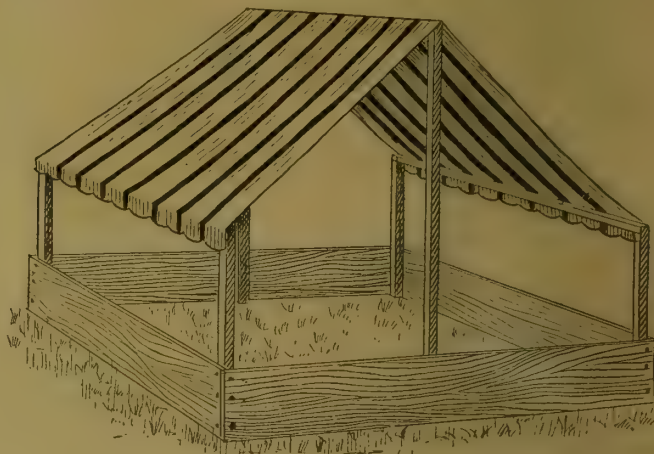
All who have bred and handled poultry for any considerable time know that shade and a scratching shed are two things that are a necessity—for comfort and profit. We are going to give a description and directions for making one of the best scratching sheds that we have seen. We got the idea from a similar one used on

duck. If you use a good heavy for cover or roof and keep your on ground that is well drained will find that it can be used all with success.

One poultryman said on seeing shed that it was a capital idea, but could not use it as his yards situated on a steep hillside, that litter would work down to one and over the board. Of course is a feature that will have to be considered with many poultrymen to overcome this, all we have to put a floor in our shed, level it put in our litter, and it is ready use.

AROUND THE YARDS.

Feed a variety of food. Birds joy a change as well as we do.



A Cheap Scratching Pen for Hot Weather

a poultry ranch in Southern California, but the shed can be used in almost any climate, unless in the extreme cold sections. Even there it could be used to a good advantage most of the year.

We are glad to give a picture made from a line drawing and hope it will assist some who wish to make one.

Cheap and Easy.

The shed is very simple, cheap and easy to make, can be moved from one part of the run to another when it becomes necessary. Serves a "duo" purpose of shade and shed. You will be surprised to see how kindly the birds take to it, and how contented they will work for the dainty morsels to be found in the litter. One poultryman told us that he kept a plot of ground worked nice and fallow and into this fresh earth he threw a few handfuls of grain each morning and raked it in, then let the fowls scratch for it through the day. He liked the plan fully as well during the dry season as litter, and as our shed has no floor in it we would suggest that those who find litter hard to get to give this plan a trial.

Description and Size.

Our shed can be any size desired, to suit space, but we give as a model one ten feet square which we have found convenient. It is made by taking four boards one inch by 12 inches—ten feet long, nailed together at corners, using as corner posts either two by three or two by four—two feet long. In center on opposite sides tack a two by three, four feet high and to these posts nail a one by three board edgewise to support your canvas.

Now your shed is ready for your roof which can be of canvas or

Don't dose your fowls to keep them well; clean quarters fresh air wholesome food is better "dopes."

It takes about three months grow a broiler.

It will require seven pounds skimmed milk to equal one pound lean beef for flesh-forming quality.

A hen was cackling long and loud. Said I to her: "How strange y song." Said she: "'Tis scarce a song; fact, It's just a lay, to be eggs-act."

After a hen is three years old becomes unprofitable as an egg producer, and is rather tough for use.

One dollar per head is the average cost of keeping a fowl a year, and same amount is a fair estimate of profits.

Many have again learned that best way to manage a sitting hen as with a woman, let her have own way.

A nail keg filled about one-third full of dirt, then make a nest on this is good for the egg-eating hen as is too small for her to stand in a peck the egg hard enough to break it, and it is too deep to stand on the edge to reach the egg. We have known this to baffle some of the worst cases of egg eaters.

Fleas.

Please tell me through the Cultivator what to do for my hens. I find they are covered with fleas. Will they in rainy season have any effect on them?—Mrs. H. B., Fresno.

relief of birds afflicted a good application of carbolic salve or lard sulphur. But you will be annoyed until you rid your houses and of them. This can be done by painting the houses with an emulsion of stillate and crude carbolic acid, solution of sulphuric acid about tablespoons to one gallon of water; spray well in houses and about twice or three times a week for two or three weeks, care be taken to keep it from the clothes and hands.

FEEDERS OR HOPPER FEEDING.

Many farmers through the Central Middle West are using the self feeder for their cattle. Although we have used a self feeder for poultry we came to California, during the last three years we have made a study of self feeders and hopper feeders. We have seen many kinds of self feeders put on the market, good, bad and indifferent. We have made up our mind that hopper feeding is best both for poultry and poultrymen. It has been pretty well demonstrated that to feed a well balanced ration in a self feeder is profitable and practical for the



Poultry Feeder

hens. And, it has many advantages over the old way of feeding. Many of our readers are already using the self feeder and to them this is not of advantage, unless it be the style of hopper; we have tried and have seen many hoppers that did not serve the purpose for which they were intended. No hopper is practical that wastes feed, or is so constructed that the hens can throw the feed out on the ground.

and Feeder.

There are many good and inexpensive feeders sold by poultrymen. We will pay for ourselves in a short time. One that we like especially can be bought for 75 cents or less and made with little work in case you don't care to buy.

To make a feeder take a board ten inches wide; from this cut one piece eight inches long for bottom, two pieces eight inches long for ends and support of. Nail bottom to end of the four inches from end; now saw the end, shape of letter A. Take two pieces ten inches wide and 30 inches long nail in shape of trough or V, with this upside down over A-shaped board for roof; now take two pieces eight inches by two feet nail on for sides and your feeder is ready.

Give as our model the two-foot feeder but it can be made any length. A partition can be put in the feeder for different kinds of food, such as charcoal, etc.

WANTS IT STILL BETTER.

Enclose \$2 for paper to January, 1908. I thank you very much for the information contained in The Cultivator. I hope it will continue to come and that it will be still better in the future.—H. C. BERRY, Rainier, Wash.

ORPINGTON CLUB CATALOGUE.

The Orpington Club of Southern California is at work on the club catalogue or year book which they hope to have in the hands of the members soon. The objects of this club are to promote the interests of this handsome and most useful breed of poultry. It need not here be enumerated why breeders of poultry should become club members. Poultrymen generally too well understand the benefits to be derived from such an association. If you are an Orpington breeder and not a member, you should join as the club needs your help. The membership fee is one dollar. Write to the Secretary, A. G. Goodacre, Compton, Cal., for information and by-laws.

AMERICAN BUFF WYANDOTTE CLUB.

The American Buff Wyandotte Club is about to issue its annual catalogue and extends to all breeders an earnest invitation to become members so their names will appear in the catalogue and as a special inducement offers a fully paid up membership to October 1, 1908 for \$1.00.

The club will offer special ribbons at any show whose secretary will ask

for them. Members are requested to ask for the ribbons for any show at which they are intending to exhibit. Send in the names and addresses of show secretaries early so these specials can be listed in the premium lists of the shows.

Correspond at once with the Secretary, Henry R. Ingalls, Greenville, N. Y.

FATTENING MARKET CHICKS.

It is generally conceded that it is a good plan to give the chicks only as much food as they will eat at one meal with keen relish. While this is true, generally speaking, there will be no harm in having a feed trough in a cool, shady place, filled every other day with cracked corn and wheat, so that the chicks that are ten weeks old or more may have access to it at will if they are to be fattened for market. They will not partake of it too freely. Often the heat will be just to their liking and precisely what they need to form a properly balanced ration for the day. The dust bath for the flock is especially needed, and freshly-spaded earth, where there is ample shade also, will afford the flock beneficial enjoyment. Lice kill more chicks than all other causes combined. Dust and grease are the natural remedies in checking the vermin that infest poultry. During the warm months it requires effort and every method known to overcome vermin in the poultry yard. Neglect quickly tells, and increases the trouble, making more than twice the work to do which should have been done properly at first.—Coleman's Rural.

To mend broken china, use a cement made by stirring plaster of paris into the white of an egg.

Egg-More

for

Early Molt

Don't let your hens molt for months. Don't let them get all run down and out of condition. They need to be fed a scientifically balanced ration during this trying season. EGG-MORE is just the thing to mix with good grains to make the same a rightly balanced ration. Many so-called "poultry foods" and "egg makers" are nothing but stimulants and not advisable to be fed regularly. If your poultry are already in a run down condition,

West Coast Poultry Tonic

is what they need for a short time; that is just what its name implies. It is very easy to mix a lot of ingredients, much of it a little better than refuse and call it egg food. And even if good foods are mixed it doesn't make an egg food unless the ingredients are adapted to the requirements. Some mixers of "egg food" seem to think that it is the shell alone that is to be made, forgetting that the hen has no use for the shell until she has made the egg.

Egg-More

is a concentrated food, very rich in protein, and a small quantity mixed with ground grains, or even with bran, is just what is needed to make her molt quickly and then lay lots of eggs. It is made of just such first-class materials, and in such proportions as has been proven by long practical experience to serve this purpose, and at the same time to build up her system and keep her in the best of health. When a small quantity is mixed with good grains, or bran, as directed in each package, it can be fed either as a mash or as dry feed. The hens like it, they eat it, there is no waste; it makes the cheapest egg food that can be made, especially if you can buy your grains at home cheaper than to ship them in.

EGG-MORE is put up in 4-lb. packages at 35c; 25-lb. pails, \$2.00; 50-lb. sacks, \$3.75; and is for sale by many dealers. If yours doesn't keep it, or will not get it for you, we will deliver a pail or sack, freight prepaid by us.

Manufactured by the

West Coast Stock Food Co.

818 San Fernando St. (Through to Alameda) Los Angeles, Cal.

You Can't Escape

the moulting season, but you can assist nature by feeding

Excelsior Moulting Food

Your hens will moult sometime next fall or winter if fed their usual rations but it is money in your pocket to have it over before then. The difference between success and failure in the poultry business is in producing eggs when the price is high. Get your hens to laying early and be sure of a good supply when the price is 50 cents per dozen.

Excelsior Mills, 242 Central Ave., Los Angeles

Feed Excelsior Moulting Food—Control the Moul



THE WHITE WYANDOTTES THAT WIN AND LAY

\$15.00 and Up Per Dozen.

Lakenvelders, per pair, \$8.00; trio, \$10.00.

Mammoth Bronze Turkeys Reasonable.

Mrs. C. D. Hubbard, Box 282, San Fernando, Cal.

Bemis Plymouth Rocks

Barred and White

Prizes Won at Alameda County Poultry Association Show, Oakland, 1907—22 Regular Prizes and 5 Silver Cups. Can furnish best birds and eggs at reasonable prices. No incubators lots furnished.

Mrs. Florence E. Bemis, 1757 19th Ave., Oakland, Cal.

California Poultry Culture

Mrs. O. H. Burbridge

The latest book on poultry raising, especially adapted to the beginner, 117 pages with 87 illustrations. Paper, \$1; cloth, \$1.50. With Pacific Fancier one year, the best and biggest western magazine, \$1.25.

236 I. W. Hellman Building, Los Angeles, Cal.

BARRED ROCKS

EXCLUSIVELY

Send for Sixteen-Page 1906 Catalogue

H. R. CAMPBELL

BOX O

PETALUMA, CAL.

WHITE WYANDOTTES EXCLUSIVELY

Good, White, Typical Birds.

Stock and Eggs For Sale.

W. A. SEYMOUR

470 No. Beaudry Ave. Los Angeles, Cal.

Baldwin's White Leghorns

Fine youngsters at reasonable rates. Good older stock cheap to make room. Full description of stock and price list mailed free on application.

Frank E. Baldwin

46 Washington Ave. San Jose, Cal.

MY EXHIBIT OF WHITE, BUFF AND PARTRIDGE Wyandottes

Won 26 Ribbons and Special Prizes at the Poultry Breeders' Show, 1907. R. D. Box D87 L. E. BERKEY, Fullerton, Cal.

Malthoid Roofing

Is the highest grade ready to lay roofing manufactured. It is suitable for covering warehouses, mills, barns, sheds, business blocks, office buildings, residences, etc.

The standard by which all ready roofing must be compared is Malthoid—there is no

"just as good kind"

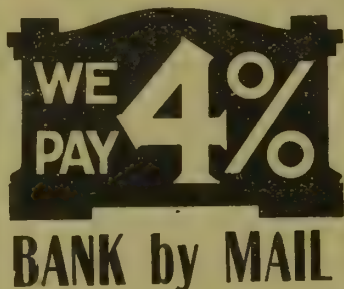
on the market.

Send for booklets.

The Paraffine Paint Co.

Manufacturers of
P & B Ready Roofing
P & B Paints and
P & B Products

Los Angeles Office
313 North Los Angeles Street



This strong bank with assets of over
TWELVE MILLION DOLLARS
solicits your account. We pay 4% on
Savings Deposits. Send for our book-
let "R" "Banking by Mail"—it will
interest you and show you how to
make more money.

California Safe Deposit and Trust Company

California and Montgomery Sts.
SAN FRANCISCO, California

Auction

45 COWS AND HEIFERS
On the J. L. Palmer Ranch at
COMPTON
AT 10 A. M.
TUESDAY, SEPT. 3

Take the Long Beach Electric cars to
Compton.
25 Head of First-class milk Cows, Jerseys, Holstein, Durham, fresh and coming fresh, all young and in good condition, in fact all fine dairy and family cows
20 head fine yearling Heifers mostly Holstein.
Durham Bull 2 years old.
Mare, weight 1100 lbs. well broken and gentle.
Aerator, 50 gal. milk Can, Etc., Etc.

This stock is removed to above place for convenience of sale and I am retiring from the Dairy business and closing out my entire herd and will positively sell every animal to the highest bidder, absolutely no limit or reserve. Purchasers looking for good dairy stock should not miss this sale. Terms: A credit of 6 months will be given with note and approved security. Liberal discount for cash. Free Lunch at noon.

GEO. W. SCOTT, Owner.
Rhoades & Rhoades, Aucrs.
Office 730 South Spring St., Los Angeles.

KILLAMITE

Also kills lice and bugs and ants on fowls and plants and about the house. No injury to plants. Best insect powder made. In sifting cans 25c and 50c, delivery prepaid if your dealer doesn't keep it.

West Coast Stock Food Co.
818 San Fernando St., Los Angeles

For spraying in and about the poultry house, **WEST COAST LICE KILLER** can't be beaten.

Gas and Electricity for the Farm Home

"DON'T BLOW out the gas," used to be a familiar sign in the sleeping chambers of such hotels as catered to the needs of the little-traveled farmer. It surely was a necessary warning. Who can say how many lives have been saved by heeding the advice of the thoughtful boniface. The many lost by disregarding it are recorded in the daily press.

But those times are passing away. Not only is the modern farmer familiar with gas—and by gas we don't mean the kind dispensed by the lightning rod man back East—but he is also familiar with gas' younger brother, electricity. When we were young so much could not be said. The first electric light we ever saw is in our memory still.

Yanked the "Dofunny" Off.

Father had taken us to town to consult the doctor about some childhood ailment and it was necessary to remain a night away from home. And, of course we stopped at the best hotel—and the only one—the county seat afforded. When bedtime came we found our room illuminated by a new-fangled "dofunny" hanging from the end of a wire. After much investigation it was accepted as an electric light. We were used to sleeping in the dark and didn't want a think like that glaring at us all night long. But how to put it out—that was the question. (The switch was behind the door and we didn't see it.) Blowing did no good and the writer, with youthful ardor, was about to suggest thumping it with a bed slat, when brave old Dad lost all patience and gingerly grasping the cord with both hands, gave a powerful jerk and pulled the whole contraption out of the ceiling. The light was out and the landlord was put out.

A Digression.

But as we said, the farmer knows more now. He doesn't do as his father did—unless that is still the better way. Farming is now a science—as everything else seems to be. Not only must the farmer know that seeds grow when he plants them, but he must know why they grow. Not only must he know what work his farm requires, but he must know how to do that work with the least possible expenditure of time, money and labor. And that's where science and scientific knowledge help him. Help him not only to make his work easier, but to make more money.

The old horse-power was used for everything not so long ago, then the portable steam engine did the work, but now the constantly improving gasoline engine has usurped the place of both and is today the farmers' tried and true friend.

We know one farmer who used to keep a Jap, at a total cost in board and wages of \$40 per month, to help him care for his five-acre ranch and poultry farm. Eventually he installed a four-horse-power gasoline engine to grind chick feed, alfalfa meal, meat scraps, bones and corn and pump the water used in irrigating. Besides that, it ran the washing machine, the wringer and the cream separator, relieving his wife of the drudgery and doing away with the necessity for the Jap's services, and all at an average cost of \$6 per month, enabling our friend to save \$400 a year more than when he employed a man.

Back to the Subject.

The reader may think we have

wandered from our subject, gas and electricity, in thus exploiting the advantages of the gasoline engine, but it must be remembered that the generation of electricity on the small scale suitable for the farmer's needs, requires that the motive power be of the simplest and most economical kind and this the gasoline engine supplies.

In discussing the use of electricity on the farm, we wish to refer more particularly to the many advantages and conveniences its installation would bring to our wives and daughters, who are, in many instances, entirely without the labor-saving devices within reach of their city sisters. This is so, not because the farmer is less thoughtful of the comfort and welfare of his family than the city man, but because the majority have not realized the opportunities placed within their reach by the gas machine, gasoline engines and electrical contrivances now on the market.

A Defect Overcome.

The chief objection formerly urged against the production of electricity by small engines was the annoying flicker of the lights caused by the variable speed at which the dynamo was driven, but manufacturers now claim to have entirely overcome this defect by the use of governors on their engines, thus maintaining the uniform speed so necessary to a perfect light.

A prominent poultryman of Santa Barbara eliminated this difficulty by feeding the electricity from the dynamo into the storage battery of his electric automobile, thence into his house. One objection to this scheme was that when the auto was in use he could have no lights in his home. He informs us that he has discarded this method as being unsatisfactory.

The First Question.

The cost of installation of an electric plant for the home is naturally the first consideration. Below we give figures showing the approximate cost of a plant for a house of eight rooms and giving power enough to furnish from twenty-five to fifty lights. The first requisite is a good engine of at least five-horse power. It is doubtful if a smaller engine can be used to advantage. Where the farmer already possesses an engine of suitable size, the cost of the remainder of his plant is merely nominal, and may be summed up as follows: A two-kilowatt dynamo and the necessary wiring, from \$75 to \$100. This amount will include, in most cases, the fixtures and lamps ready to burn.

This All Looks Good.

If not more than twenty or twenty-five lights are installed, there will be enough power to have electric fans, toasters which toast both sides of the bread at once and which may be operated on the dining table, hot plates, to brew the tea and coffee, electric ovens and cooking apparatus of all kinds, and in addition portable heaters of attractive design may be used by simply connecting to an electric socket. A small motor may be attached to the sewing machine, washing machine, churn, cream separator, grindstone, etc. Even the clothes may be ironed by electricity.

The fuel oil to operate the engine will cost about seven cents per hour. By having this power installed water under pressure may be piped throughout the home without additional cost

for power, thus insuring adequate fire protection.

Where the rancher does not already possess an up-to-date engine of sufficient power to drive the dynamo, the initial cost of installation will, of course, be much greater and may be placed approximately at \$300.

Comfort Going to Waste.

The many small waterfalls throughout California might also be used advantageously in the production of electric power, the cost practically ending with the installation of the plant. The writer spent his vacation last summer at a mountain ranch in a beautiful canyon, where 75 miners' inches of water are tumbling down 100 feet, yet the owner had lived there twenty years without making the slightest effort to take advantage of the light, heat and power so prodigally provided by nature.

Light and Heat from Another Source.

To the farmer who is so fortunate as not to require an engine for irrigation or other purposes, and who feels that the purchase of one for electric lighting plant is not justified, the many excellent gas machines and oil burners now on the market should appeal. A machine capable of lighting a house of eight rooms and furnishing gas for cooking may be installed for from \$50 to \$250. The manufacturers claim to be able to produce a gas possessing a fuel value of 1500 to 1700 Btu units per cubic foot, while natural gas is only credited with 1000 Btu units per cubic foot and coal at 525.

The lighting fixtures for an eight-room house will cost in the neighborhood of \$30, while the stove or range may be had from \$5 up. The cost of operation depends, of course, on the service required, but as an illustration we give the following:

Cost for lights for an eight-room house about \$2.00 to \$2.25 per month.

Cost of running stove or range 10 hours and two oven burners 10 hours a day for one month, \$3.60.

This estimate is based on the maximum amount of service likely to be required and in many instances can be greatly reduced.

An Oil Burner.

We now come to the last, but by no means the least worthy, of the devices available for use in country homes—the oil burner. These machines are simple and the first a mere trifle. Nearly all can be adapted to the ordinary coal and wood stove with but little difficulty, and produce a strong, steady flame of intense heat. They are not, of course, suitable for lighting purposes, but for use cooking are excellent.

Give Wife and Daughters Modern Conveniences.

We have not attempted in this brief article to specify all the uses to which gas and electricity may be put in the farm home, but our desire is simply to awaken the universal prosperous farmers of California to the availability of many things which would tend to ease the often hard and uninviting lot of the farmer's wife. Every up-to-date farm possesses modern tools, yet many times that farmer's wife is expected to accomplish the arduous labors of a badly-arranged farm house with none but the most obsolete appliances. This should not be.

Be a Missourian.

The intending purchaser of lighting or heating plant should thoroughly investigate for himself the necessary apparatus and cost of operation. All the reliable manufacturers and agents are courteous and willing to show their machines in actual use. This will enable the buyer to choose intelligently the plant best adapted to his particular needs. Pocket book.—DUNCAN L. SMITH

Snake Bite Remedies

It is not often that fatality occurs from snake bites in California, but there are occasional sad cases. Intelligently and quickly attended the bite of a rattler is not dangerous in the least. But if the victim is left down and nothing is done to prevent the poison's absorption it will probably soon terminate fatally.

If the bite is on the extremities, the handkerchief and twist tightly above the wound to prevent circulation of poison. Make incision with knife at point of wound and draw poison out. No danger in doing this. Keep patient moving, especially if drowsy.

From many exchanges we clip the following which doubtless all have seen. The first is from a Florida paper:

Permanganate of Potash.

It might be supposed, the matter of fighting the effects of snakebite has been studied very closely in India and a number of remedies have been proposed. Among them is the use of an animal, injected into the flesh of the victim. One of the latest ideas is to make an incision in the flesh where the bite has been inflicted and introduce a few crystals of permanganate of potash, a well-known antiseptic drug, which is invasive. The more prompt the treatment, of course, the more hopeful the outlook. For this reason, hunters who foresee danger would do well to carry a little permanganate of potash with them and also have a pointed knife blade, which can be employed as a lancet on short notice.

In another paper we note: Dr. Jones' cure is most simple, and he prescribes it to be absolutely effective. Nothing more than tincture of iodine injected into the veins near the wound.

"This is an absolute cure," said Dr. Jones. "I have never known it to fail. I have used it constantly, and have never lost a case, even of the most serious sort."

In many camping trips a hypodermic syringe is not part of the kit, but it should be if there is any danger of being bitten by reptiles of any sort. But even without 'hypo' the use of iodine is simple. If the bite is abraded a short distance from the bite, scratched, say, with a quill or any sharp instrument so that the blood comes, and iodine is rubbed on freely, so it will get into the circulation, no trouble will be experienced from the bite.

A rattlesnake once bit a fine fellow on the nose. I stuck the small end of a knife in the flesh above the wound, injected iodine, using a quill as a syringe, and the fellow never felt the slightest ill effect, although the bite was a severe one.

The same rule applies to the bite of tarantulas, scorpions and other kind. Iodine is a sovereign remedy for them, and every man who spends a day in the country where these abound should carry a bottle of it with him. It may make him a savior."

History was going the rounds not since that a cowboy in Montana recently cured rattlesnake bites by rubbing alum, a lump about the size of a thumb.

Soda.
An old prospector in Shasta county

says he has no more fear of a rattlesnake bite than a bee sting. All he uses is common baking soda. Quickly cross-cut the wound and apply the soda dry, or if water is handy, it may be dissolved first. Keep applying it until it quits fizzing.

Kerosene.

"The following remedy is said to be a splendid antidote for the rattler's bite, provided it is used immediately after bitten. Take a pan or bowl and pour in enough kerosene oil to cover the wound. It will draw the poison immediately and in the course of a few minutes turn perfectly green; then pour out the oil and refill the bowl, being careful to put in enough oil to completely cover the wound. Leave the foot or hand in the oil as long as the oil turns green. Then put on a poultice of plain table salt and saturate thoroughly with oil. Keep this up about an hour and there is scarcely any danger of fatal results."

Ammonia.

Cross cut wound, suck poison, then cauterize with strong ammonia, administer internally as promptly as possible aromatic spirits of ammonia from a half to a teaspoon.

Which of the above is best we don't know, but amongst them may be one which you can quickly administer. That which is quickest at hand use.

Above all don't kill the victim with whisky or strong spirits. We once saw the statement of the death of a little girl from a snake bite, so supposed, which a physician asserted the real cause to be alcoholic poisoning from doting the child without "rhyme or reason" with whisky in the effort to save it from the other poison.

PORCH COMFORT.

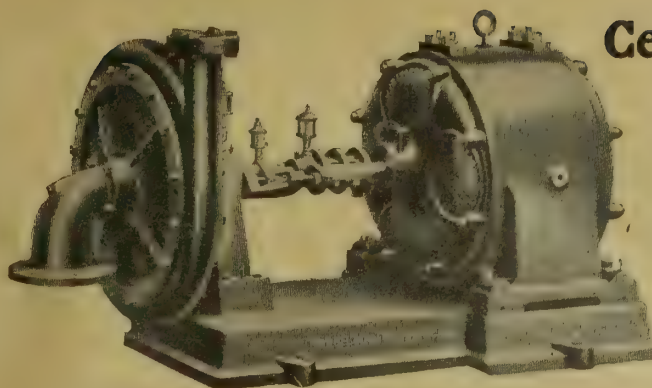
With rugs, hammocks, swinging settles, cushions, chairs and tables all especially designed for the furnishing of the big front or side porch, all varied and tasteful in design and reasonable as to price, it would seem that the pleasant and healthful fashion of spending much of one's summer leisure in these airy lounging rooms must soon become a fixed American habit.

Porch blinds are another comfort, affording a screen through which plenty of light and air may reach the lounge. Drop leaf tables which may be folded against the wall when not in use are a convenience for the small porch, and a rack for fans and books will earn a welcome at once if screwed to the side of the house near hammock or easy chair.

TO AVOID BALDNESS.

A good wash for the hair, if you are becoming bald, is made of: Glycerine, one ounce; quinine, 20 grains; tincture of cantharides, one dram; spirits of nutmeg, two ounces; fluid extract of jaborandi, one-half dram; rosewater, one pint. Mix well and apply twice a week, using a small, stiff brush.

To clean paint that is not varnished take a flannel and squeeze nearly dry out of warm water and dip in a little whiting. Apply to the paint, and with a little rubbing it will instantly remove grease, smoke or other soil. Wash with warm water and rub dry with a soft cloth. It will not injure the most delicate color, makes it look like new and lasts much longer than if cleaned with soap and water.

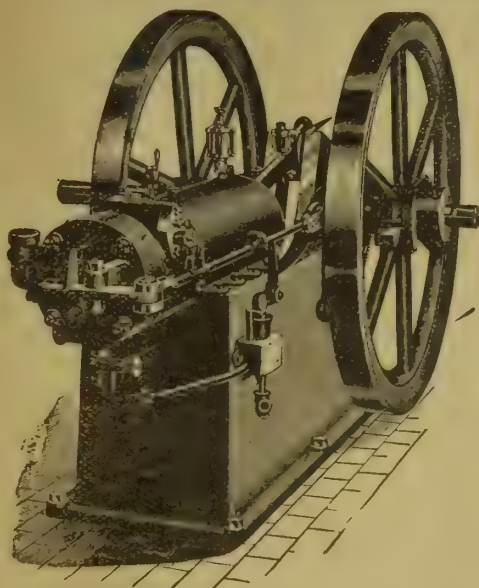


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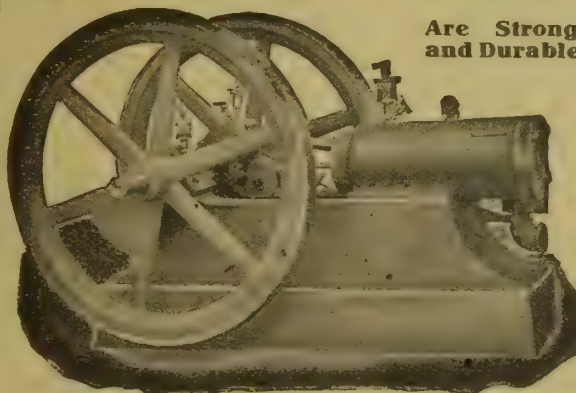
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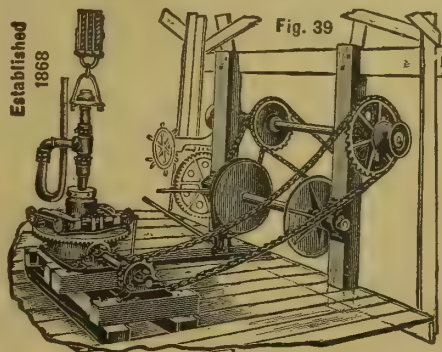
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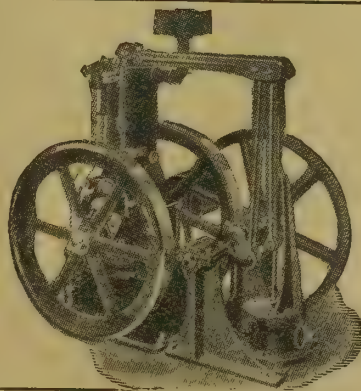
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COW TALK

SUGAR BEET PULP
KOW-BREAKFAST-FOOD FOR COWS

QUESTION—What is a cow?

ANSWER—As I said before, a cow is a square critter with a peg at each corner to stand on. I am built square so that I can hold lots of food.

The Cow Talks: I have also been called a "milk machine." To a nail machine they feed wire and get nails. So they expect to feed me wire-y, dusty, musty hay and get milk. Nothing in it. Don't expect to get wire nails from a nail machine without feeding it wire, nor milk from this milk machine when fed on wire-y hay, mostly trodden under my feet. I'll tell you what to feed me—fill me up on Kow-Breakfast-Food when I come in from the pasture.

Kow Mathematics: Then I'll give you 32 cents' worth of milk for a cent's worth of pulp. Besides, I figure I'll get fat at the rate of about one pound a day.


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Queries and Replie

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Fistula.

I have a mare which has a small fistula on withers. It heals over then breaks and discharges.—G. H. H. Tulare.

You had better take this mare to a veterinary and have him explore and open the sinues up to the bottom and treat with a rychloriac solution and slough out diseased tissue.—W. J. Oliver, V. S.

If service of a vetinarlan cannot be had the following from Diseases of the Horse may be of service:

In the earliest stage, when there is soreness, enlarged lymphatics, but no well-marked swelling, the trouble may frequently be aborted. To do this requires both general and local treatment. A phisic should be given, and the horse receive one ounce of powdered saltpeter three times a day in his water or feed. If the fever runs high, 20-drop doses of tincture of aconite root every two hours may be administered. The local application of cold water to the inflamed spot for an hour at a time three or four times a day has often proved very beneficial, and has afforded great relief to the patient.

Cooling lotions, muriate of ammonia or saltpeter and water; sedative washes, such as tincture of opium and aconite, chloroform liniment, or camphorated oil, are also to be frequently applied. Should this treatment fail to check the progress of the trouble, the formation of pus should be hastened as rapidly as possible. Hot fomentations and poultices are to be constantly used, and as soon as the presence of pus can be detected, the abscess wall is to be opened at its lowest point. In this procedure lies our hope of a speedy cure. As with any simple abscess, if drainage can be so provided that the pus will run off as fast as formed without remaining within the interstices of the tissues, the healing which follows will be rapid and satisfactory.

Bitten by Snake.

I have a young cow, which was in apparently healthy condition until yesterday. When I went out to milk I found that the left side of her face was all swollen and slightly back and below her ear seemed to be hard lumps. We bathed it with a liniment which we have, also with a mixture of turpentine, lard and nutmeg, rubbing it in well. She does not seem to be able to drink much water although she can eat hay. This morning the swelling is slightly gone from the side of her face, but there is a hard lump in her throat. As there is no veterinary around here you will greatly oblige by information as to what this is and giving a remedy.—R. A. S., Elsinore.

Your cow has been bitten by a tarantula or poisonous reptile. A liniment made of equal parts of raw linseed oil, sprits of turpentine and aqua ammonia, shake and rub in daily until swelling and soreness ceases.—W. J. Oliver, V. S.

Best Vetch.

Will you kindly inform me which is the best kind of vetch to be used for a cover crop, and where the seed can be obtained?—Alex Craig, Folsom.

What is known as winter vetch is the best. Seedmen in all parts of California have it on sale.—J. W. M.

Mr. Mills will have an article on green manuring next week.

Possibly Tuberculosis.

What ails my Jersey cow? She always eaten hearty and appeared well but last fall a hard lump came on side of her jaw about the size of a goose egg. I cured it by rubbing ammonia and turpentine and it never returned. She came fresh December and about half the year since the right front quarter of udder has been bad; it will be right one milking, next milking it will be caked very hard and but a little milk; then for a few milks will be lumps and strings and a little milk for several days. She breathes hard, makes quite a noise but think it is caused by food in her throat.

She is an exceptionally heavy ter cow, and would dislike very to lose her.—Country Greenhorn.

This cow should first of all be tested for tuberculosis. The lumps constant condition of bad blood would make me doubtful of her. The best milkers that often look thin eat well, will react and when they will show a generalized condition of the disease that is appalling.—M. J.

Filling a Silo.

I want to impose upon you by asking you concerning the details of filling alfalfa into the silo. I have a silo constructed and the cutter re but never having filled a silo with alfalfa I have felt that out of your perience you might offer some suggestions concerning the handling between the field and the cutter would save us trouble. I would much appreciate any suggestions will be kind enough to give.—G. DON H. TRUE, Reno, Nev.

Should ensilage be tamped in filling? Does it require a weight on the silo is filled? How much alfalfa a fifty-ton silo? What is a satisfactory cutter and the power required?—J. S. STEWART, Balls Ferry.

Both the above questions will be answered in Mrs. Sherman's department next week in an excellent article on filling the silo.

Bees in the House.

I wish some bee man would in me through your valuable weekly, to get a swarm of bees out of my house; they got in the cracks and an outside chimney.—E. B., Riverdale.

If anyone wants a swarm of bees here is doubtless a chance. And it is the only one, for a school house in Los Angeles is infested the same. Plugging up cracks and doling tar were both tried, but if they ever knew it they didn't show it. The building is said to do a turn. If the bees are not perhaps the owner will take home if notified.

Vineyard Run Down.

I have a vineyard on this place is past its prime, can you inform by mail if there is anything I can do to prolong life?—T. J. B.

This was referred to Mr. Mills who writes that unless he knows the particulars he cannot give much information. In general it may be that best of care, add humus to the soil by fertilizing with coarse manure, spraying with Bordeaux mixture among the steps necessary.

Warts on Cow's Neck.

Some unsightly warts have appeared on the neck and throat of my yearling Jersey heifer. They do not hurt her at all except as to looks but looks is the entire bakery. I want to take her to the coming county fair.

If the warts have a constricted

them off with sharp scissors and the parts with nitric acid or, the acid applied every second day burn them out. You must be careful in the use of it, about three applications is usually enough.—W. LIVER, V. S.

Col Worms.

I have two colts, 3 months old, that their tails. I have greased them for three times, but don't seem to get them relief long. I feed them, their mothers, rolled barley, oats and barley and alfalfa hay; you advise me of something that will cure.—R. B. E., Tenderfoot Co., Compton.

My colts are troubled with rectal worms. Inject with the following: raw linseed oil about ten drops; spirits of turpentine two drops. Take piece of garden hose, cut in rectum about 15 to 18 inches, and can be done easily if you smear with grease. Elevate the end of the hose should be about two feet out of the rectum. Insert funnel and pour the mixture and let it gravitate into the bowels. Remove the hose slowly. Make colt retain mixture for some 15 minutes. You may be obliged to repeat in a week. Rub a little lard on the rectum occasionally.—W. J. V. S.

In answer to C. H. L. Use the treatment as prescribed above. In addition wash the tail clean with the following lotion: Eucalyptus 2 oz. to quart of water. Repeat if necessary. W. J. O.

Worms.

If you please inform me through the Cultivator as to whether currants will in this part of California? If at what time of year must the slips be cut out and where can we get them? at the large kind.—Mrs. J. D. Winter, Del Rosa.

Plants have never succeeded in

Southern California, and we do not think you will find profit in planting. An experimental plot may be tried, but would advise nothing extensive.

Skimming Too Deep.

Will you kindly tell me, through your columns, wherein my trouble lies.

My cow is a young one, fresh, I believe, a year ago, and her butter is filled with tiny white flakes, which I take to be particles of sour milk.

These flakes cause the butter to taste sour; often it is three day's old.—S. H. P.

The flakes of sour milk are caused by skimming too deeply into the milk when taking off the cream. The simplest remedy is to add a pint to a quart of water to each pan of milk when it is set and then it will skim much easier; avoid skimming too deeply into the milk.—M. E. S.

Measuring Water.

Are water companies obliged to give water under a four-inch pressure if demanded. Old Subscriber.

The amount of water in California is usually measured on the four-inch pressure basis. If the water is deeded with the land and on that basis then you can surely demand your full head under four-inch pressure. Also if a company has contracted to supply you a certain number of miners' inches the law would presume the general custom would prevail and it should be measured to you under four-inch pressure.

Keep Down the Dust.

The following is a fine hint just received from Buena Park:

I would like to tell my friends of the Cultivator who live on the dusty side of the road to haul a few loads of weeds, spoiled hay, corn stalks, or even straw manure onto their road and note the difference in the quantity of dust which the good wife has

to sweep out each day. One day's work will do it, and it will last a long time. This in interest of better roads.—J. L. Tummond, Buena Park.

Legal Queries

Damage by Cow.

A neighbor's cow staked out in the road broke loose and spent the night in my garden practically destroying the whole thing. The garden I valued at \$100. The owner of the cow refuses to compensate me for the loss and claims the cow was firmly staked and he had a right to pasture in the road. Can I recover for the loss of my garden?—G. B. F.

Yes, unless there was negligence on your part.

Damage to Horse.

I hired my horse to a neighbor to cultivate his ground. While the horse was in the possession of my neighbor he became snared in a wire fence and is badly injured so that I shall lose the use of the horse for some time, and possibly for good. Can I recover for the horse damage while in the possession of my neighbor?—R. P. S.

Yes.

Peddler's License.

Will you tell me if a man has to secure a license to peddle farm products raised by himself in a township where there is no license prescribed. In other words, is a county license necessary for a party to peddle products grown by himself?—S. M.

No.

BETTER THAN EVER.

Amongst the many manufacturing companies of San Francisco to suffer an entire loss in the great fire of 1906 was the Krogh Manufacturing Company, who make the well-known Krogh pumps. This concern is one of the oldest and best known manufacturers on the Coast and their pump has won most hearty approval by irrigators and others who have had occasion to use an economical water lifter.

For years this well-known firm was located on lower Market street, and after the fire were compelled to seek quarters in the outskirts of the city and begin with an entirely new plant. The magnitude of this cannot be at first appreciated by one not in touch with the business, for it was not simply a case of placing orders for new machinery, but new designs must be drafted, patterns made, and every step of the work from start to finish laboriously worked out. Of course, in doing this they have been enabled to build larger and better, and to profit by the experience of past years. After a year and a half of this constant struggle the firm is again located in the heart of the manufacturing district with a new plant most complete in all its appointments. This plant has a far greater capacity than the old one, and the building is especially designed and equipped for their practical needs.

In celebration of this event the firm has now ready for mailing a new 64-page catalogue, No. 50, showing complete line of centrifugal pumps and other pumping machinery. This catalogue is very complete and has much of interest for those desiring to purchase goods of this character, but while it is an expensively gotten up it will be mailed free to Cultivator readers who contemplate establishing any pumping machinery. The address of the firm is Krogh Manufacturing Company, 127-133 Beale St., San Francisco, California.

A PUBLIC SALE OF SHORTHORNS.

The auction sale of Judge Carroll Cook's shorthorn cattle and Berkshire swine at the California State Fair on September 14 will be a great event. Forty high-class bulls, cows, heifers and calves and twenty head or registered Berks. will be sold at auction.

It's a grand bunch of stock in which there has been no culling and many prize-winners are included.

Stock will be on exhibition at the grounds after Sept. 9.

Write Fred H. Chase Co., 478 Valencia St., San Francisco for catalogue.

WHITE, BUFF COLUMBIAN WYANDOTTES
And Golden Sebright Bantams, prize winners
Stock and Eggs in season
M. E. Dillingham, Box 67 San Gabriel, Cal

SHADE'S RHODE ISLAND REDS

The World's best layers.

J. W. Shade San Bernardino, Cal.

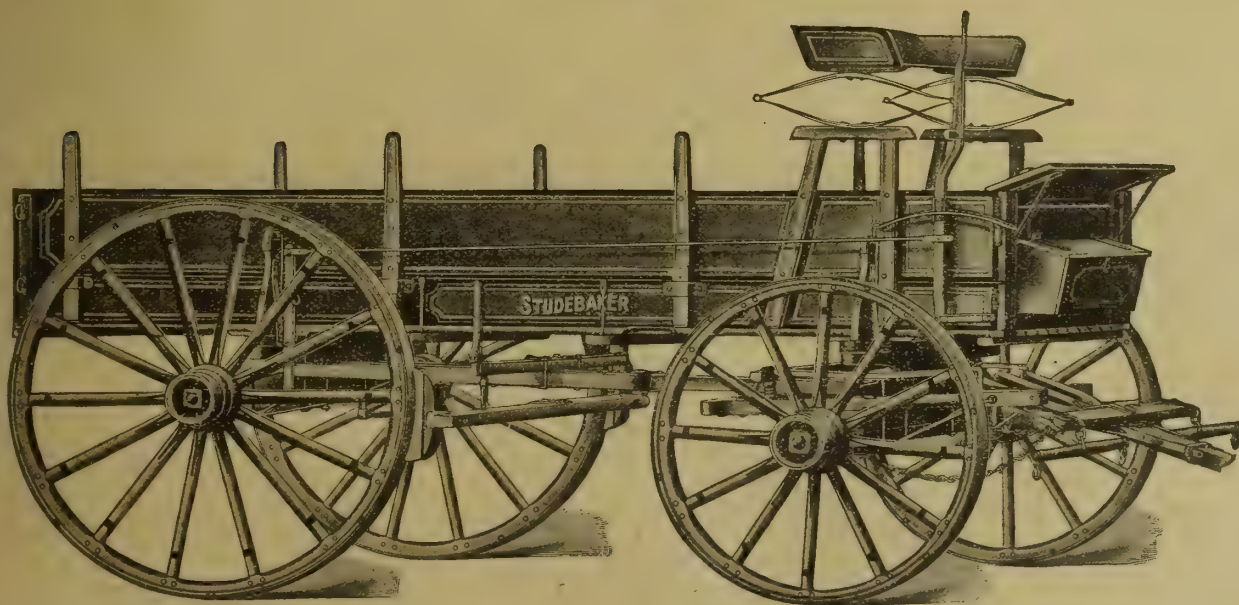
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Studebaker Buggies

Studebaker Harness

The man who as purchased cheap, thrown together wagon or buggy and had it give way at a critical time knows how to appreciate a

STUDEBAKER



The man who never bought a buggy or wagon should take no chances with any kind but a reliable

STUDEBAKER

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We want you to know us and we want to know you. We want you to know that we carry the most complete line of standard, high grade farm supplies in California. Our catalogue is full of interesting facts and figures, containing illustrations and descriptions of every tool needed on the farm and ranch. Better send for it today. It just costs a postal—that's all.

When you come to Los Angeles be sure to call and see us whether you want to buy or not. We have salesmen who will take pleasure in showing you around and explaining everything in detail.

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Fastest drillers known. Great money earners!
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Household Department

VACATION TIME.

Oh, glorious
Long
Vacation days,
Your coming
Hits us
Forty ways,
If we are
Only
Little men
Along about
The age
Of ten.
Our books,
Dog eared,
We cast aside,
Slates, pencils
And
Erasers hide,
And try,
As far
As that's concerned,
To unlearn
Everything
We've learned.
If we
Are somewhat
Older—well,
We see
A chance
To loaf
A spell,

folks on the first page of this issue. If the woman is mentally constituted so as to rest at home, and not to keep everlastingly at it, she will be more rested by quietly staying there and reading a few good books, renewing her youth and generally brushing up the mental department which will be a change of labor and give rest.

Hire a Girl a Month.

In some homes where help is not employed regularly, the vacation money may find wise expenditure in hiring a girl for a week or a month. If heavy work is to be done, a good stout working girl or a Jap or China boy may be secured. If the work be light a girl of different class—possibly some college girl, independent enough to take such work; also willing to add a little to her coming year's pin money, will bring new life and companionship into the home. Such a step will, in some cases, give

who pitches the tent then sits down or goes hunting while his wife continues to get all the meals and the camp work under conditions twice as hard as in the home, is worthy a vacation. For the man enter into the spirit of the work, chop the wood, build the fire, fry flapjacks, do all the rest of the cooking—that's the fun of the trip, that is if the rest of the family can stand his cooking.

If the men just sit around waiting for the dinner bell, fire the bunch.

Getting Home Again.

Above all, as Mr. Isaac says, greatest pleasure is getting home again." The old home is more appreciated. Don't let that appreciation wear off. Love it more. Bear it up to the limit of your financial ability; still more beautify and adorn with Love and Contentment, cannot have unlimited means of adornment. But all may have unlimited Love. Without that is no home.



To sit around
And read
A book
And keep
Our standing
With the cook.
But, whether
We
Are young or old
We prize
It as
A miser gold.
Vacation—
Fellows,
That's the stuff!
—[San Bernardino Sun.]

THE WIFE'S VACATION.

Man works from sun to sun
Woman's work is never done.

IN other words woman's work is being done all the time. The first up in the morning—sometimes. Always the last to tidy up the house and have it shipshape at night.

To be sure these days of separator, creamery, gas, electric lights and other modern luxuries—necessities they have almost become—the woman's tasks on the ranch are different than they were years ago. Besides, the satisfactory returns to fruit grower and farmer for the past few years have placed many conveniences and labor-savers in the home which make household labor much lighter.

But at best it's still hard and now and then the good wife should—must—take her rest. It may be at home as we have suggested to the men

more rest to the homemaker than a hard and tiring jaunt to ocean or mountain.

But people are different.

Tired of Home.

Maybe you are tired of the four walls. The great outside world is better than your home. Everyone else has things better. Other wives have easier times. The eternal grind is dreaded from morning till night and things look blue generally.

It's time to go to the beach. Strike the gentle landlady with the little back room at \$5 to \$20 per week, "in advance, please," and deal with the class which has to make a year's living in a few months and you will have such a "good" time that you will be happier in your little possessions when you get home.

But, of course, there are other quiet places where real rest and recuperation are to be had. For a rest go to the mountains. For a "big" time go to the beach and dance and bathe and every thing else which tires.

If the mountains are not too far away, a big spring wagon with camp appliances loaded, a week's outing can be taken cheaply and restfully.

Don't Let the Men Be Boarders.

Above all, if the whole family goes to the mountain, make the men folks fry the bacon, peel the potatoes and do the entire camp work. The man

Continue the Vacation.

During the coming year regular household affairs so that leisure had for a short story or some reading every day. If the vacation or outdoor living room (be sure have that) isn't shady and cozy make it so with vines or canvas or screens. Plant sweetpeas and other flowers that the table may be graced day of the year.

Be serene and have that contentment which will make your prayer a benediction to the whole family.

HOUSE AND HOME.

A house is built of bricks and mortar of sills and posts and plaster. But a home is built of loving hearts that stand a thousand years. A house, though but an humble dwelling within its walls may hold a home of priceless beauty, rich with Love's eternal gold.

The men of earth build houses—dormers and chambers, roofs and domes—But the women of the earth—oh, knows!—the women build homes. Eve could not stray from Paradise for, oh, no matter where Her gracious presence lit the way; Paradise was there.

Nixon Waterman

To prevent the juice of fruit from soaking into the bottom wash the crust over with a beaten egg before putting in the fruit.

The Personal Neatness Club

ANOTHER little bunch of suggestions comes to our club this week. The first in answer to a former one. We still hold our old name as the want of a better. We are all open to suggestions.

Here's our first hint:

Hint for Porcelain.
I wish to suggest to Mrs. C., who has asked for a hint on removing the grime of bath and other porcelain tubs. As she says lye may be effective, but not agreeable to use. I have a coaloil bottle in the corner of the tub and on it an old cloth. After opening in cork—like pepper bottle—gives me an appliance which works like a charm. With a squirt of the oil about the tub, with cloth and light rubbing finishes to the queen's taste and leaves it smooth and clean. Gasoline is good, but I like kerosene best. Any of the powdered soaps also do well. Another hint:—When the sink, tub or bathtub get yellow and won't whiten with the above, moisten all over, then rub with chloride of lime. Let it stand an hour or two, or over night, then wipe off when the whiteness and gloss will be most pleasing.—E. R., Glendale.

Gloves and Darning Hose.
Here is a hint to the girl who wishes to keep her gloves white. Take one spoonful of sugar to a quart of warm water, make a lather with soap and wash the gloves in this. Then rub the soap on the gloves

as this has a tendency to make them yellow. By stretching them while wet I have found they keep their shape better.

Also a darning hint which I have found of value. When your lace hose begin to show signs of wear, as they often do, by dropping a stitch, instead of making an ugly darn, by using darning cotton slip them under the machine and stitch back and forth. This makes a very neat darn and also prevents the hose from raveling further.—Miss S., Los Angeles.

That last hint should save enough pin money in fancy hose expense to make up a year's subscription to the Cultivator.

Here are some more hints from an old friend.

Caring for the Toilet Articles.

Brushes for toilet use wear longer and do better service while they last if they are well taken care of, and all brushes should be placed in such a position that all water will drain from them. Silver back brushes and other articles of silver can be kept shining by rubbing them with whiting and then polishing with chamols leather, and glass toilet bottles can be made to glisten by rubbing them with alcohol and whiting, allowing it to dry on the glass and then polishing with a soft cloth.

The best way to clean plaster of Paris ornaments is to cover them with a thick layer of starch, then let it dry thoroughly and brush off.—Aline.

Recipes for Camping Days

It is doubtless the men and women of the company who take the greatest pleasure in a camping party, often the work of the women to make the well filled hamper which is taken along. Of course experienced campers will scorn anything but even smacks of advice, but those who have not gone may welcome a suggestion or two.

At the first place, the food which is taken along must carry well and keep well. For this reason prepared in glass jars are not to be recommended, except in small quantities since there is great danger of leakage. Cucumber and other pickles will be found more desirable than chow chow and liquid

It is a good idea to put in a supply of sweet chocolate, raisins and nuts. They take well and serve for sweet meats. Baked beans can be packed in an earthenware vessel and are always appreciated on a camping trip, as also is boiled ham. To improve the flavor of the ham after it is boiled, sprinkle it with bread crumbs and a little sugar and bake it for about twenty minutes. If the ham is quite salty, it should be soaked for twenty-four hours before cooking and care should be taken that it is cooked long enough. It should simmer gently for five or six hours and will be improved by the addition of a few spoonfuls of molasses.

Potted Meats.

A camping party will be sure to find a jar of potted meat a great delicacy. With a quart of potted chicken, a cup of minced ham is an improvement. Veal and tongue, and veal and ham are delicious when put together. A cold roast and corn beef makes a savory dish of meat to have on hand, and a veal or beef loaf will be easy to carry and easy to serve.

Take a Fruit Cake.

For cake put into the food hamper a large dark fruit cake. This can be kept as long as desired, and to add variety, a loaf or two of some lighter, more perishable cake may be added for use during the first day or two. Cup cakes will keep several days if baked in muffin tins and completely covered with frosting.

It is, of course, impossible to take a food supply for a great length of time but where the camping trip will last only a few days these suggestions will be applicable.

From a Riverside subscriber we have some hot weather recipes. Tried and found satisfactory. They are also economical.

Frozen Eggnog.

Beat yolks of three eggs until

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Is the Best, Cheapest, Safest, and Most Easily Managed Gas Machine on the market. Allowed by all insurance companies.

Sold on Five-Year Guarantee as to Material, Workmanship and Operation. Have your own Gas Plant and be Independent. For printed matter, prices, etc., write

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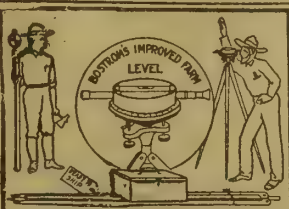
A GOOD WATCH

Especially Adapted for Hard Service
Seventeen fine Ruby Jewels, Adjusted to temperature, compensation balance, patent micrometric regulator, handsomely damaskeened. Fitted in solid back, dust proof, swing ring, Nickel or Silver Case. **Guaranteed.**

19 Size, Large \$9.00
16 Size, Medium \$11.00

Prices on other movements, sizes and grades are equally low.
(Charges prepaid, money refunded if not pleased.)
Write for Complete Watch, Jewelry and Silverware Catalog No. 10. It is free.

BROCK & FEAGANS
Broadway & 4th St. Jewelers Los Angeles



BOSTROM'S IMPROVED FARM LEVEL

Used for irrigation and drainage work. Cheapest and best level yet invented for farm use. Has the latest patented improvements in simplicity and usefulness. Can be operated by any one. Price including telescope tripod and target rod \$12.50.

PALACE HARDWARE COMPANY.

456 Golden Gate Avenue,

San Francisco.

Coast Agents.

Send for Circular.



This Gun has a Record of 150 Gophers Without a Miss

SURE POP CONCUSSION GUN

Made of brass and will not rust. Shoots 38 Blank Pistol Cartridge

John D. Keller, Manufacturer

327-347 W. Santa Clara Street
San Jose, Cal.

When writing advertisers, mention Cultivator.

thick; add one teaspoon of sugar and one-half pint of milk to each egg; beat well together and add a little nutmeg; put in freezer for a couple of hours, but do not turn. Serve in glasses adding beaten whites of each glass and serve with candied cherries.

Strawberry Punch.

Cut strawberries into slices and fill punch bowl with strained orange juice and add powdered sugar to taste. This a delicious and inexpensive.

Cold Desserts Without Ice.

Take six bananas (ripe.) Remove pulp and mash to a cream. Measure and add one-half as many strawberries, one tablespoon of lemon juice, three of powdered sugar and one of orange juice. Beat all together. Fill banana skins and set on ice; serve with whipped cream if desired.

Fruit Snow.

Bake four bananas and four apples until soft; remove insides to cool. Add one teacup sugar, beaten whites of four eggs, one teaspoon of lemon or orange juice. Mix thoroughly, set on ice and serve with rich cream.—Mrs. J. W. M.

LINERS

Liner Advertising

Advertisements in Liner Column 1 1/4 cents per word. Eight words to a line. No advertisement taken for less than 25 cents.

EGGS FOR HATCHING.

AT REDUCED PRICES BALANCE OF season from by prize winning Barred Rocks; won all special and 13 regular prizes on Barred Rocks at late Los Angeles show. Eggs from best pens, \$2.50 per 15; \$10 per 100. Can furnish any quantity. Also offer extra bargains in breeding stock. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

WHITE PLYMOUTH ROCKS EXCLUSIVE-ly. The largest flock of prize winning birds in the West. At the late Los Angeles show, 1907, we won twenty-three out of a possible twenty-five prizes. We offer extra bargains in our this year's breeders. Will sell to suit purchaser. Eggs \$2.50 per 15; \$10 per 100. A. J. LITTLE, Monrovia, Cal.

PRIZE BLACK LANGSHANS, SHORT legs, heavy bodies, unexcelled egg-producers. Choice 1907 cockerels, \$3.00; eggs, \$2.00 per 13; \$10.00 per 100; delivery of eggs Sept. 10th. Indian Runner duck's eggs and stock for sale. CLYDE J. MOSS, Corona, Cal.

GEESSE.

A BARGAIN—IF TAKEN NOW. FINE large thoroughbred Toulouse geese at \$15 per doz. D. C. McLARTY, Rancho Los Posas, Thermal, California.

POULTRY FOODS.

ARMOURS BEEF SCRAPS, MEAT MEAL, and Blood Meal for poultry feeding are highest in digestible protein. If your dealer does not handle them write us direct. Circular containing formulae free. THE ARMOUR FERTILIZER WORKS, 738 H. W. Hellman Building, Los Angeles.

FARM LAND.

FOR SALE—AN IDEAL SITE FOR RAISING chickens. Ideal for a little home, three acres, one and one-fourth mile from two banks, Post office, High School, churches, etc. Electric light wire, curbed and oiled streets. Grand old shade trees, splendid view and drainage. For particulars address, OWNER, P. O. Box 254, Corona, Cal.

JUBILEE POULTRY FARM, 80 ACRES, well improved, 2000 healthy chickens, horses, cow, implements, vehicles; 6 large incubators and brooders; pumping plant, \$7500 takes crops and all; a snap; easy terms. WM. MANTZ, Santa Maria, Cal.

LAND YIELDING LARGEST CROPS known of wheat, oats, alfalfa, sugar beets for \$12 to \$25 an acre. Water supply sure for 50c an acre a year. Easy terms. Fare rebated. No humbug. W. R. GILSON, 411 S. Main St., Los Angeles.

FOR SALE—15 ACRES FRUIT OR ALFALFA land; good house, well, etc.; all in cultivation; plenty of water. Drop me a card for particulars and price. G. C. O., Box 175, Lemoore, Cal.

TREES.

3000 GOOD, THRIFTY WASHINGTON NAVY and Valencia late trees; 1 and 2 years old; at the right price. Free of scale and smut. C. D. HUBBARD, San Fernando, Cal.

MACHINERY.

FOR SALE—CHEAP FOR CASH—35-H. P. Westcoast engine in good order. 943 N. MAIN ST., Los Angeles.

FOR SALE—IN A1 CONDITION—25-H. P. Fairbanks-Morse distillate engine at a bargain. N. W. cor. MAIN AND BRUNO STS., Los Angeles.

FOR SALE—A REAL BARGAIN IN 10-H. P. Otto gasoline engine as good as new. Just overhauled. 117 BRUNO ST., Los Angeles.

The Produce Markets San Francisco

Los Angeles Markets

LOS ANGELES, Aug. 28, 1907.

Butter.

With the excessive holdings of Eastern butter in storage, the butter market is guessing. The arrivals continue greater each day which has a tendency to weaken the market. Some even maintain that lower quotations will prevail soon. Quotations still stand exactly as last week.

Creamery extra per roll.....65
Creamery first.....60
Dairy.....55
Cooking.....47 1/2

Cheese.

Cal. Young America, per lb.....19
Hand.....20
California Anchor.....17
Cal 3-lb. hand.....20
Northern fresh.....16 1/2
Eastern.....18@19
Domestic Swiss.....23
Imported Swiss.....30 1/2
Tulare flats.....17

Eggs and Poultry.

Eggs have been forced up three more notches during the past week. The market is very strong at present. The usual retail price in the stores is 40c.

The prices given are those of the commission man to the retailer.

Eggs local candled.....32@33
Eggs case count.....30@31

The following are average prices which dealers pay to producers for live weight.

Hens per lb.....13 1/2
Young roosters per lb.....14
Fryers.....15
Broilers per lb.....16
Old Roosters.....8
Turkeys.....17
Geese.....11
Ducks.....12
Squabs per doz.....1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs, from 175 to 200 lbs.....7 1/2
Prime steers.....4 1/4@4 1/2
Heifers.....3 1/2@4
Calves, per lb.....4 1/2@5
Sheep, ewes, per head.....4.75@5.25
Lambs, per head.....4.00@4.50
Wethers.....5.50

Potatoes.

Potatoes are still weak as they were last week. Large receipts of Northern are partly responsible. Quotations are still held up, but some sales are made under them.

Early Rose.....2.00
White.....1.90@2.00
Local Burbanks.....1.85
Salinas.....2.30
Sweet potatoes per lb.....3 1/2

Onions.

Receipts of onions are heavy and market is well supplied, but there seems no tendency yet to weaken nor lower prices.

Silverskins per ctl.....2.50
Australians.....2.00@2.55
Yellow Danvers.....2.40
Garlic.....9

Vegetables.

Vegetables are plentiful and fair demand. Green corn is very scarce and quoted higher. Tomatoes are on a slump.

Artichokes.....65@80
Beets per doz.....30@50
Bell peppers green lb.....7
Beans wax.....5@7
Beans Limas per sack.....75
Beans green.....14@2
Cabbage sack.....60@70
Celery per doz.....40
Chili peppers green.....3
Cucumbers per 20-lb box.....15@30
Corn per box.....40@50
Cauliflower.....1.25
Carrots per doz.....20@30
Egg plant per lb.....3@5
Green onions doz bunches.....15@30
Lettuce per crate.....40@75
Mushrooms per lb.....1.00
Pie Pumpkins.....1 1/2
Peas sugar per lb.....2 1/2@3 1/2
Okra, per lb.....20
Rhubarb per box.....50
Radishes per doz.....15@20
Spinach per doz.....10@20
Summer squash crate.....15
Turnips doz bunches.....35@40
Tomatoes per box.....25@35
Water Cress per hundred.....40

Citrus Fruits.

Valencias.....1.50@2.75
Seedlings.....1.25@1.50
Grapefruit Seedless.....2.00@2.50
Grapefruit Seedlings.....1.25@1.35

Lemons, fancy.....2.00
Lemons, choice.....1.25@1.50
Tangerines, halves.....1.50@1.75

Fresh Fruits.

Apples Red Astrachans box.....1.00@1.25
Bellefleurs.....1.75
White Astrachans.....2.50
Pearmain.....1.75@2.00
Gravenstein.....1.50
Crab apples.....1.00
Blackberries.....10
Cantaloupes crates.....1.50@1.75
Casaba per crate.....2.25
Figs black per lb.....5@6
Figs white.....3 1/2
Grapes per 4 bskt crate.....1.30@2.25
Huckleberries lb.....20
Logans.....7@8
Nectarines.....1.75@2.00
Pears.....2.25
Peaches per box.....80@1.25
Plums Simonas.....1.15
Plums Tragedy.....1.25
Pomegranates box.....1.00
Raspberries.....12
Strawberries.....4@6
Watermelons per lb.....1 1/2

Dried Fruits.

Dried fruit conditions are looking much better and some of the larger buyers are standing up under former contracts, so that the feeling prevails that the producer will yet close the season successfully. Papers are publishing the claim that Armsby is attempting to bear the market and do what injury he can, but it is hoped a strong tone will yet prevail. Quotations are still nominal.

Evap. apples fy per lb.....8 1/2@11
Apricots.....19@21
Peaches.....11@13
Pears.....12@13
Nectarines.....12@14
Prunes.....4@5 1/2
Plums.....11 1/2@12 1/2

Beans, Dried

Beans are showing more life and are being bought at slightly advanced prices.

Limas per ctl.....4.75@5.00
Pink No. 1.....3.25
Lady Washington.....3.25
Small White.....3.25@3.40
Black Eyes.....5.50@6.00
Garvanzas.....5.75@6.00
Lentils.....12 1/2@15

Honey

The prices we give are those at which the jobber sells to the grocer in small lots. The producer should take from this one cent a pound commission and freight to Los Angeles, and there will remain the net returns to him.

Extracted white.....6@8
Light Amber.....5@5
Comb, water white, 1-lb. fms.....12@15
Light amber.....11@13

Nuts.

Nuts are looking up somewhat and interest in the coming crop manifested. Orange county reports a slightly increased output of walnuts over former expectations. Prices are not yet made on the coming crop.

Almonds per lb.....19@25
Peanuts, Virginia.....9
Peanuts California.....6@7
Walnuts, No. 1 S. S.....14@15

Hay.

Barley No. 1.....13.50@15.00
Barley No. 2.....10.00@11.00
Alfalfa Northern per ton.....12.00
Alfalfa new local.....11.00@12.50
Plain oat No. 1 new.....12@13
Wheat No. 1.....12@14

Grain.

Purchasing prices f. o. b., Los Angeles are:

Wheat new per cwt.....1.70
Wheat, new, per cwt.....1.70@1.75
Wheat, Sonora.....1.52 1/2@1.57 1/2
Barley.....1.17 1/2@1.22 1/2
Corn Eastern sacked.....55

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn.....1.65
Shorts.....1.45
Bran.....1.30
Egyptian corn.....1.65
Oil cake meal.....2.50
Rolled Barley.....1.40
Rolled barley per ton.....25.00
Feed meal.....1.70
Kaffir Corn.....1.65

The Suisun Republican says: What was undoubtedly the most valuable carload of dried fruit ever shipped out of California was one containing dried apricots which was shipped this week by the Ernst Luehning Company to Hamburg. The fruit in this car was worth more than twelve thousand dollars at this point and was entirely of this year's crop, being the initial shipment from this district.

SAN FRANCISCO, Aug. 27, 1907.

Butter.

A slight advance is made in the grade of butter during the week, no material change in the general condition of the market.

California extras per lb.....
California firsts.....
California seconds.....
California thirds.....
Packing stock.....

Cheese.

California Young American fy.....
California flats fy.....
Eastern fancy.....
Oregon fancy.....

Eggs and Poultry.

A material drop in quotation of eggs has been made the past week, the best grades showing a 3 1/2-cent decline.

Fresh ranch eggs.....
Eggs first per doz.....
Eggs seconds per doz.....
Eggs thirds.....
Eastern, selected.....

Hens per doz.....
Hens large.....
Young roosters.....
Old Roosters.....
Fryers, per doz.....
Broilers per doz.....
Ducks, young.....
Geese, per pair.....
Turkeys, per lb.....
Pigeons.....

Live Stock.

Steers No. 1.....
No. 1 cows and heifers.....
Hogs 80 to 200 lbs.....
Hogs 200 to 300 lbs.....
Calves, per lb.....
Lambs, yearlings.....
Wethers, No. 1.....
Ewes, No. 1.....

Potatoes

River whites.....
Early Rose.....
Sweet.....

Vegetables.

Asparagus.....
Cucumbers per box.....
Corn per sack.....
Chili peppers per box.....
Bell peppers per box.....
Egg plant per box.....
Green peas per lb.....
Squash per box.....
Peppers Green Bell per box.....
Rhubarb per box.....
Tomatoes California.....
String beans.....
Wax beans.....
Garlic.....

Onions.

Onions new reds.....
Onions Br Australia per ctl.....
Onions new yellow.....

Citrus Fruits.

Valencias.....
Seedlings.....
Grapefruit, seedless.....
Limes.....

Fresh Fruits.

Apples Red Astrachans.....
Apples Gravenstein.....
Apples small stock.....
Crab Apples.....
Blackberries per chest.....
Figs one layer.....
Figs 2 layers.....
Grapes per crate.....
Logans per chest.....
Melons per crate.....
Plums per box.....
Peaches per box.....
Raspberries.....
Strawberries per chest.....
Watermelons per doz.....

Dried Fruits.

Apples (evap.).....
Apricots per lb new.....
Figs white.....
Prunes 4 sizes.....
Peaches.....
Pears.....

Beans, Dried

Limas No. 1.....
Pink.....
Large white.....
Small white.....
Black Eyes.....
Red Kidneys.....
Bayo.....

Hops.

Hops, new, future delivery, per lb.....
Hops, old, fancy.....
Hops, choice.....
Hops, common.....

Nuts.

Almonds, new.....

California	5 1/2 @ 6 1/2
.....	12 @ 16
Honey	
White comb.....	16 @ 17
.....	13 @ 16
.....	5 1/2 @ 7 1/2
No. 1 per lb.....	26 @ 28
Hay.	
Local	11.00 @ 13.50
.....	14.50 @ 16.00
.....	10.00 @ 14.00
No. 1 new.....	18.00 @ 21.00
Grain.	

ding the grain situation the
le says:
r as stability of prices is con-
the local grain market is in ex-
condition. The choice grades
y firmly sustained and holders
offering very freely, owing to
that still better figures may
ned a little later in the season.
ume of transactions continues
small and as has been the
several weeks the demand is
confined to medium-class
The local speculative situa-
dull and devoid of interest.

No. 1	1.52 1/4 @ 1.55
No. 1	1.27 @ 1.30
Small yellow.....	1.60 @ 1.65
Large yellow.....	1.50 @ 1.55
White	1.45 @ 1.50
.....	1.50 @ 1.75

Feed Stuff.	
.....	19.00 @ 22.00
per bale.....	60 @ 90
corn meal per ton.....	32 @ 33
corn per ton.....	33 @ 34.50
Meal per ton.....	40.00 @ 41.00
ut cake, per ton.....	25.00 @ 26.00
gs	27.00 @ 30.00

Citrus Market

OS ANGELES, Aug. 28, 1907.
e conditions are still quiet with
tion as to conditions of next
crop uppermost. Valencias are
forward slowly all others out of
ns are stronger and will close
with good prices.
Shipments.
ents to date aggregate 28,837
which 3180 were lemons. Last
me date, 25,128, of which 3402
mons.

YORK, Aug. 26.—The market	
dy. Nine carloads Valencias	
NCIAS—	Avg.
obe xfy Riv Ft Ex.....	4.30
xy Cal C U.....	5.25
xc Cal C U.....	4.00
no ch S Mar Gr Pack Co.....	4.15
y xc Covina Ft Ex.....	4.20
label st S Mar Gr Pack Co.....	3.15
fy Houser Bros.....	3.20
ession fy Chapman's Fulln.....	5.90
ession ch Chapman's Fulln.....	5.05
Eagle st Chapman's Fulln.....	4.25
fy Tustin Pack Co.....	4.55
k ch Tustin Pack Co.....	3.80
st Tustin Pack Co.....	3.65
l. fy Pinkham & McKevitt.....	3.40
ch xch Worthley & Strong.....	2.50
ver fy Richardson Fulln.....	4.85
ch Richardson Fulln.....	4.25
st Benchley Ft Co.....	3.70
xc A C G Ft Ex.....	4.40

SBURG, Aug. 26.—The market	
ly and the weather cool. Four	
as sold today.	
NCIAS—	
c O K Ft Ex.....	3.00
ch O K Ft Ex.....	3.00
y st O K Ft Ex.....	2.35
Orchard Independent Ft Co.....	4.35
xc A C G Ft Ex Azusa.....	3.55
st A C G Ex Azusa.....	3.60
o r Edmund Peycke.....	4.45
Edmund Peycke.....	4.20

ELAND, Aug. 23.—Delayed	
Market steady and weather	
Two carloads sold and two on	
NCIAS—	
ght st S S Ex Orange.....	3.75
S S Ex Orange.....	3.20
ONS—	
ello Sweetwater Ft Co.....	3.60
ETS—	
ght st S S Ex Orange.....	3.20
ON, Aug. 26.—The market is	
strong and weather cool. Two	
as sold and ten on tracks.	
NCIAS—	
cc O K Ft Ex Ontario.....	4.25
fy A C G Ex Glendora.....	5.20
st A C G Ex Glendora.....	4.70

INNATI, Aug. 26.—The market	
edy and weather cool. One car-	
tracks.	
NCIAS—	
st S A Ex Pomona.....	3.30
INNATI, Aug. 23.—Delayed	
e. The market is weak and	
hot and muggy. One car on	
NCIAS—	
st S A Ex Pomona.....	3.35

ST. LOUIS, Aug. 26.—The market is
firm on good stock. Weather cool.
Two carloads sold and one on tracks.
LEMONS—
Flower City xc S T Ex Santa Bar 4.20
Flower City st S T Ex Santa Bar 2.85
Flower City ch S T Ex Santa Bar 3.50
S. S. (Valencias) S S Ex Orange.. 3.75
ST. LOUIS, Aug. 23.—Delayed Wire.
—The market is weak on account of
the weather. Raining. Two carloads
sold and three on tracks.
HAVANA ORANGES—
Selected ch Limoniera Co.. 2.70
LEMONS—
Loma ch Limoniera Co..... 3.80
Selected ch Limoniera Co..... 3.85

THE IRRIGATION CONGRESS.

Sacramento, with the aid of several
of the Northern counties, is making
a strong effort for the success of the
Irrigation Congress which meets in
that city on Sept. 2-7. A new build-
ing has been erected on the capitol
grounds adjoining the agricultural
pavilion in which the meetings will
be held; the streets are being hand-
somerly decorated and one of the finest
electrical parades ever seen in North-
ern California will be given. All
sorts of entertainments are being
planned for the visiting irrigationists
and nothing which hospitality can
achieve will be left undone by the
capitol city. As showing how wide-
spread is the interest being taken in
irrigation, it may be noticed that del-
egates have been announced as com-
ing from even the remote Eastern
States, where irrigation is practically
unknown, while all the arid and semi-
arid States will be represented.
The rapid absorption of the public
domain, the wonderful increase in
population of the United States, the
natural desire of people for homes,
and the immense fertility of the so-
called arid lands when under water,
have given an unexpected impetus to
irrigation in the past few years, until
it is now one of the leading questions
of the day. The coming congress
will be the largest and most impor-
tant ever held, and out of it will un-
doubtedly arise much valuable legis-
lation of importance to the great
West, especially as among the repre-
sentatives will be many of the lead-
ing statesmen of the country.

BIRDSSELL HULLERS.

Over fifty years ago the late John
Comly Birdsell invented the clover
huller, thresher and cleaner. Clover
was not then cultivated very exten-
sively and the seed saved amounted
to but a few hundred bushels, and it
is said that his first machine could
have hulled the entire clover crop of
the United States at that time. To-
day the proceeds from the sale of
clover seed reaches into the millions.
This great advancement was brought
through incessant toil on the part of
Mr. Birdsell, who began early to cir-
culate and spread broadcast pham-
phlets treating on the value of clover;
through this method he gradually cre-
ated a market for his machines.
In the early days of alfalfa in this
country, he also realized its great
value and placed the first and only
alfalfa huller on the market; this ma-
chine is built for the hulling of alfalfa
seed exclusively.

These two hullers are standard and
are now known throughout the world
wherever clover and alfalfa are grown,
and it is generally conceded that the
name "Birdsell" alone stands for qual-
ity, durability and excellency. Thou-
sands of Birdsell clover and alfalfa
hullers are now in use and are every-
where recognized as the best. A fine
catalogue is issued by the company
which is well worth sending for.
It may be secured by writing the
Birdsell Mfg. Co., South Bend, In-
diana.

BANK BY MAIL.

Mail order business is being sought
by the bankers these days and suc-
cessfully. The farmer and small-town
business man is finding that a deposit
in the large business centers is not only
a convenience, but almost a necessity.
The transaction is so simple that the
mail proves practically as satisfactory
as personal presence at the window.

But the country depositor asks, "Is it
safe?" Nothing can be safer. Choose
a safe, well-managed institution of
large capital and open an account.
But first, if a little further light is
wished, write the California Safe De-
posit and Trust Co., for a little book-
let "Banking by Mail," which will be
mailed free if the Cultivator is men-
tioned.

That institution, by the way, is one
of the big, strong institutions of the
State. It has over twelve millions of
assets, and pays four per cent on
deposits.

See us for Sanitary Milk Bottles. O. J.
Weber Co., 555-557 S. Los Angeles street.,
Los Angeles.

A Perfect Roof



Rubber Sanded Roofing

Is made in our own factories under the personal supervision
of roofing experts, backed by a quarter of a century of
roofing experience. We stand back of every foot sold,
because we know we can "make good" every claim of its
superiority.



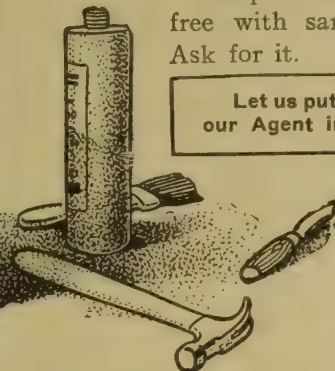
That hard flint sand surface is wear-
proof and eliminates all paint expenses.

A complete roofing kit with every roll

Any man with a hammer, a knife and
an old paint brush can lay it right.

Complete Roofing Guide sent
free with samples and prices.
Ask for it.

Let us put you in touch with
our Agent in your locality.



PIONEER
ROLL PAPER
COMPANY
LOS ANGELES CAL.
Manufacturers

Nicholls-Hammell-Loomis Co.

Largest Hay Shippers in Southern California

1128 San Pedro Street Los Angeles, California
PHONES—HOME, EX. 969; BROADWAY 4011

Stock Event of the Year

for the
PACIFIC
COAST

Shorthorned Cattle and Berkshire Swine

Owned and Bred by Judge Carroll Cook of San Francisco, Cal.

Auction Sale of Pure Bred California State Fair
Registered Stock at

Sale to take place on State Agricultural Grounds, at Sacramento, Cal., at 10 A. M., on **Saturday-
September 14th, 1907.** Write for Catalogue.

Fred H. Chase & Co., Auctioneers

476-478 Valencia Street San Francisco, Cal.

On sale Sept. 11-12-13

Return limit 90 days

Sept. 30-Oct. 1-7

Return limit Nov. 30

CHICAGO.....	\$72.50
BOSTON.....	109.50
NEW YORK.....	108.50
ST. LOUIS.....	67.50
ST. PAUL.....	70.00
OMAHA.....	60.00
KANSAS CITY.....	60.00

And many other points at reduced rates.



EASTERN EXCURSIONS

Via Scenic Short Line

**Tickets
are good
on Los
Angeles
Limited
the famous
Chicago
flyer**

**Jamestown } Norfolk, Va.
Exposition }**

Sept. 11-12-13

Return 90 days

Sept. 25-26-Return Nov. 30

"You will be pleased with the excellent service,
scenic attractions, etc. of the Salt Lake Route,
the Scenic Short Line via Salt lake City. Through
sleepers to Chicago and other points.
Full particulars at all ticket offices or from T. F.
Bowes, Dist. Passr. Ag't, 601 So. Spring St., Los
Angeles.

When writing advertisers, mention Cultivator.

YES, WE HAVE THEM--THE Burrell-Lawrence-Kennedy Cow Milking Machine

Save Time, Money and Labor

Repay Their Cost in Economy

Do Not Injure the Cows

Are Thoroughly Practical



MILKER IN OPERATION

In Operation During State Fair at Sacramento September 2nd to 14th

Investigate Thoroughly for Yourselves, as This is an Important Matter
Over 300 Now Successfully Operated Throughout This State

Let Us Explain To You the Wonderful Operation of These
Cow Milkers by Sending Our Free Booklet

NO EXPERIMENT. ONCE TESTED, ALWAYS USED

Read What Some Users Have to Say:

DONLON BROS. SAY:

OXNARD, CAL., MAR. 29, 1907.
Cultivator Publishing Co., 115½ N. Broadway, Los Angeles, Cal.

Gentlemen:—
Replying to yours of the 27th regarding the milking machines installed in our dairy, beg to advise that the name of the machine is the Burrell-Lawrence-Kennedy Cow Milker and it is manufactured at Little Falls, N. Y.
You ask us if we are pleased with the Machines. If our machines were destroyed tomorrow by fire or otherwise, we would immediately install a new outfit. We believe this to be as strong a recommendation for the machine as it is possible to give. We further believe that the cow-milking question is now practically solved and that it will be only a matter of time when all large dairies will use machines instead of the old hand process.

The Burrell-Lawrence-Kennedy machine is very simple. Any man, with half a head, can operate this machine, even though he has never milked a cow. Each machine milks two cows at the same time, and one man, after a very little practice, can easily operate two machines. Our old cows took kindly to them from the start; the heifers kicked quite a bit, but now stand like old cows. The connections with the cow do not in any way hurt her teats, and there is absolutely no danger of the machine drawing blood as some machines do. Another great point of this machine is that we can get clean milk—something that nobody can do by the hand process.

Baker & Hamilton are the sole agents for this machine on the Coast, and any information that you desire about the machine itself can be had from them. We shall be glad to furnish you with any additional information regarding the working of the machine.

About the clean milking of the machine, we find that they strip the cow as clean, if not cleaner, than by the hand process. We get about the same amount of milk now as we did before we started using the machines a month ago, and the amount is increasing. Trusting this is satisfactory,
Yours very truly,
DONLON BROS.

R. H. FLINT CONVINCED.

SAN MUSTO DAIRY, HOLLISTER, CAL., Aug. 8, 1907.
Baker & Hamilton, San Francisco, Cal.

Gentlemen:—
The Burrell-Lawrence-Kennedy cow-milking machines are satisfactory in every way. I have been using them about four months and am convinced that the cows give more milk when milked by machine than when milked by hand by the average milker.

The machines are easily cleaned and kept in order. Heifers are broken to the machines in a few minutes. I expect to install more machines next season.

San Juan Bantista, Cal., R. F. H.

Yours truly,
R. H. FLINT.

WIEGMAN & POORMAN RECOMMEND THEM.

ALVARADO, Aug. 3, 1907.

Messrs. Baker & Hamilton, San Francisco.

Gentlemen:—
Your favor of the 31st ult. is at hand. You ask what results we have had with the Burrell-Lawrence-Kennedy Milking Machines, and whether they have given satisfaction.

We commenced using the machines last November. Owing to the fact that occasionally meet some one who asserts that cows on which the machines been used during an entire lactation period would have a diminished flow of after freshening again (although these assertions are mere rumors, in no case, from a person having experience or knowledge of such effect,) we had not tended to express our views until we had used the machines a full year. That have little fear of bad results was shown when, after using five machines months, we ordered five more, all of which are now in operation.

Almost all of the cows milk as well, and many of them better, with the machine than with hand milking. When first using the machines the cows more or less nervous and do not let their milk all down, necessitating hand stripping. With patience and gentle treatment this is soon overcome, and a majority of cows will be stripped out cleaner than by the average hand milker.

The machines are a decided advantage in the breaking of heifers. With the results have been satisfactory in every case.

The men take kindly to the machines and most of them soon become experts in their use. Where two men with machines do the same work as three with hand milking, the latter become jealous because of the easier work of the others. Think the proper allowance of work in the use of the machines would be five at 150 cows—for three men.

While the reduction of the number of help required is a partial offset to the cost of the plant, we consider the chief advantage in the use of the milking machine that of having the milk free from dirt, which is not possible, however great the care, in hand milking. In view of the exactions of health boards, which in many localities could not be complied with, the machines seem to us a necessity when furnishing milk for use in cities.

Yours very truly,

WIEGMAN & POORMAN.

C. MARTINELLI SATISFIED.

LAKEVILLE, Feb. 6th, 1907.

BAKER & HAMILTON.

Dear Sirs:—
A few lines to let you know that the milking machines are in running order, and are satisfactory.

Yours very truly,
C. MARTINELLI.

BAKER & HAMILTON, Selling Agents

San Francisco, Cal.

Sacramento, Cal.

Los Angeles, Cal.

MONROE & SHELTON, Portland, Ore., Agents for Washington and Oregon

California Cultivator

Los Angeles

September 5, 1907

San Francisco

Irrigation Canal Through Butte County



THE irrigation system of the Butte County Canal Company is located in the Sacramento Valley, California. This valley includes all that area, largely of alluvial soil, lying between the city of Sacramento on the south, Redding on the north, and between the mountains of the Coast Range on the west, and the Nevada Mountains on the east. It includes about 3,000,000 acres of arable and comparatively level land. It is the last important section of California to be thrown open to the home-owning farmer, and is remarkably rich in natural advantages. The marvellous and enduring fertility of the soil has largely been the factor which has retarded its best development, as holders of large tracts of land have found it profitable to cultivate grain until diminishing returns and depreciation in quality compelled a change to irrigation and diversified farming. Prof. Elwood Mead, of the U. S. Department of Agriculture, an authority on the subject, states: "Southern California has demontsarted the value of irrigation. Northern California illustrates its latent possibilities. When one considers the vast area of the Sacramento and San Joaquin Valleys, with a shape by nature for the easy spreading of water; with a soil of great fertility, and a marvelous climate, there is no doubt that it is to be, during the twentieth century, a great field of opportunity, not of the farmer alone, but of the engineer, the lawyer, and the student of social and economic questions. The available

water supply of this valley (Sacramento) ought to make it the Egypt of the Western Hemisphere."

The Butte County Canal takes its water from the Feather River, which has its origin in the high Sierras. The height and extent of the water-shed of this river (3,350 square miles), and the volume and regularity of its flow, constitute the ideal irrigation supply.

Careful records of the flow of Feather River at the point of diversion into the Butte County Canal give a minimum flow of 1,300 cubic feet of water per second, or 65,000 miners' inches. This supply of water will here effectively irrigate 200,000 acres of land in diversified crops, and as the system is not designed to irrigate more than 150,000 acres, the sufficiency of water is assured.

The structures of the Butte County Canal consist of a concrete headgate of staunch construction, calculated to resist the highest pressure during flood season; an auxiliary headgate of timber and concrete, and many smaller weirs, gates and trunouts, principally of timber, but which are being replaced as occasion arises, with concrete, or partly concrete, construction. The main canal is about thirty miles in length, and the lateral ditch system, which is being rapidly extended, aggregates, at the present time, about thirty miles in addition. The entire system represents an investment of over \$475,000.

Coulson's Improved Mash Egg Food

**Takes
Less
Feed**

**Makes
More
Eggs**



IF YOU WANT PLENTY OF EGGS THIS FALL AND WINTER when prices are high, you must lay your plans now. The hens must be given a strong feed which will enable them to get through the molt without loss of condition, and they will then quickly commence laying again.

First, see that your hens are healthy when they start to molt. At this time of the year, after a heavy laying season, they are apt not to be at their best, and a little of *Coulson's No. 3 Condition Powder* will put new life into them, and enable them to thoroughly digest and use the good food which they specially need.

At the same time, they must have the best food you can give them from the commencement of the molt. You will find *Coulson's Improved Mash Egg Food* is just what is required. It is strong in protein, due to the blood, meat, bone and oil cake meals which it contains.

Put Up in 90-lb. Sacks Directions in Each Sack

Your hens will not need to eat so much of the concentrated food to obtain the egg-making and feather-producing materials they need, thus saving their digestive organs and your pocket at the same time.

Coulson's Improved Mash Egg Food is therefore beneficial in two ways. Less feed is required and the hen gets just what she needs, with the result of a quicker molt and more eggs.

First cost is not everything, but even in this respect, COULSON'S IMPROVED MASH EGG FOOD shows to advantage. A 90-lb. sack will make a meal for 1250 hens. This is just over 2 lbs. a hen a month. Think how many eggs does it take to pay for this feed? In November, only 1 egg, and not more than 2 on the average.

We know what this feed will do by results on our own poultry ranch, as well as from testimonials from pleased customers all over California. What it does for others, it will do for you.

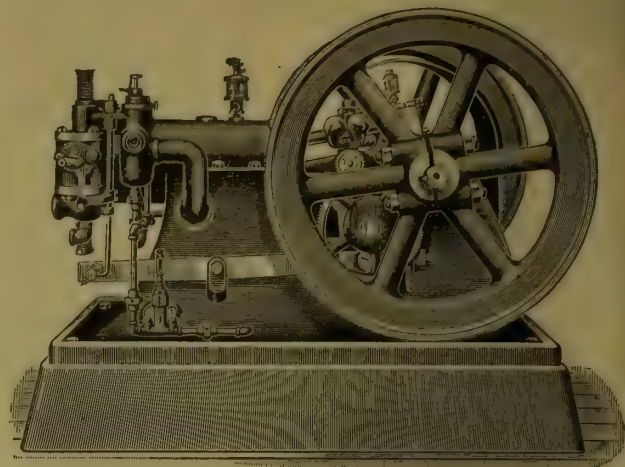
Give a trial order to your dealer; if he does not keep it, write to us, and we will either advise you where you can get it locally, or supply you direct.

Manufactured By

Coulson Poultry and Stock Food Co.
Petaluma, California

GERMAIN SEED CO., LOS ANGELES, CAL.
Distributing Agents for Southern California

ALAMO Electric Light ENGINES



Throttling governor voltage as steady as with a steam engine. We can demonstrate this to you at our salesroom, where we have them running. Lighting and water plants for country houses a specialty. Drop us a card.

Norton Engine and Power Company
201-3 No. Los Angeles St. Los Angeles, Cal.

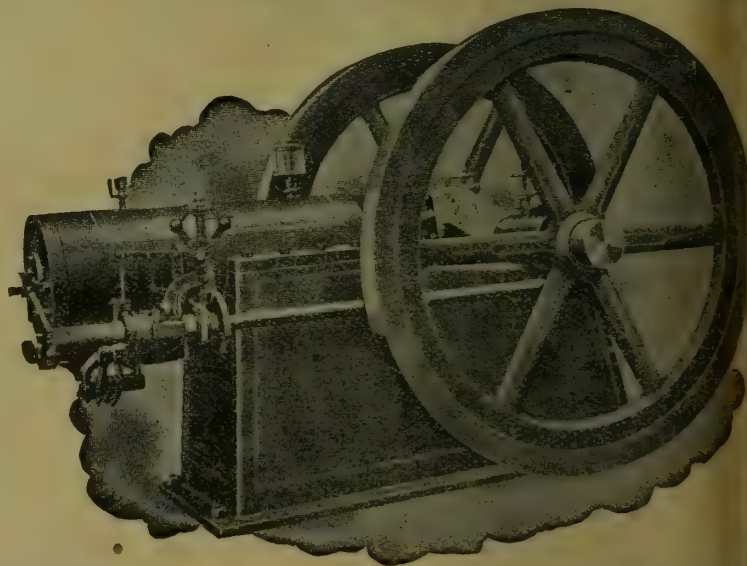
Columbus Engines

MADE BY THE.

Columbus Machine Co., Columbus, Ohio

Have stood the test fourteen years.

2 to 60 Horse Power



Here's a Good Word from a Man Who Knows

Los Angeles, Cal., July 8, 1907

To Whom it May Concern:

We have recently installed and now have in operation on our ranch near Anaheim a 60-horse-power Columbus Distillate Engine. This engine is belted up to a No. 6-2 stage pump, in a 90-foot pit, and is running along on an apparently easy load and pumping by actual measurement 150 inches of water. Our fuel consumption has averaged so far four gallons per hour.

To the man who wants plenty of water, little trouble and economical engine, and one that develops the full horse power, we can cheerfully commend the Columbus Engine.

We have had experience with high speed so-called big horse power engines, and know whereof we speak when we recommend the Columbus Engine to the public, knowing that it is a kind you can depend upon free from all trappy devices, simple to operate and economical.

The writer has run a 10-horse Columbus Engine at Tropic, for the past four years, and can vouch personally for the above statement.

Trusting that this information will be a benefit to those interested, beg to remain,

Yours very truly,
THE ANAHEIM PRODUCE CO.,
By E. B. Barry, Manager.

Greenleaf-Compton Co.

121 South Los Angeles St.

Los Angeles, Cal.

California Cultivator

XXIX—No 10

Los Angeles, California, Thursday, September, 5, 1907

Subscription \$1 a Year

The Great Valley of California

*The National Irrigation Congress Being Held This Week
in the Midst of the Greatest Irrigation Possibilities
of Any Section of Like Scope on This Continent*

The Fifteenth National Irrigation Congress convening this week, is in the center of what is probably the greatest single irrigated area on the American Continent, and by the greatest irrigation project that the National Reclamation Service has considered its organization. This is the great Interior of California, the valley of the Sacramento and San Joaquin. It is five hundred miles in length and comprises approximately ten million acres—an area so vast that even in their wildest enthusiasm—and the Reclamation Service officials are enthusiastic over it—they have had no more than a mere beginning, at least at present.

prosperity so largely depends. It means new and greater opportunities for those who seek lands and homes, and new avenues of trade and commerce. The importance of the addition of such an area devoted to the most extensive form of agriculture can hardly be overestimated, and yet the total combined area of all these projects is less than one-third that of California's Great Valley.

California's Valley extends in a northerly and southerly direction from the thirty fifth to the forty-first parallel of latitude. Were it possible to transfer it to the same latitudes on the Eastern Coast of the Continent, it would include the city of New York on the north and extend southward

converted into a land of little farms supporting a great population.

Plans for such a project have been partly worked out, but are still incomplete. For nearly ten years the United States Geological Survey, and later the National Reclamation Service, have been making surveys and investigations in this valley and the contiguous water-shed. Streams have been measured, a topographical survey of the valley floor begun, the underground waters studied. Mountain valleys suitable for storage reservoirs have been sought out and measured, for the summers are rainless in California and the winter flow must be held back by great dams. Fortunately nature has been liberal in providing natural storage



Orchard Scenes in Sutter County, Under the System of the Butte Canal Company

The National Reclamation Service is now building twenty-five projects that, when completed, will irrigate 3,198,000 acres. These projects will cost \$100,000,000, and will provide farms for 250,000 farmers. Measured by existing standards, twenty-five projects will maintain in command plenty a combined rural and urban population of 2,000,000, or one-fortieth of the entire population of the United States.

The building of these projects means the addition of a vast area to the cultivated lands and provision for a vast increase in the population of the United States. So great is this prospective that it is a matter of immense importance to the people of the whole United States, for it means a large increase in the agricultural production upon which the maintenance of our present

to Cape Hatteras on the Coast of North Carolina, and include within its boundaries the cities of New York, Brooklyn, Philadelphia, Baltimore, Washington, Richmond, Norfolk and Raleigh.

This great valley inclosed by steep and rugged, though forest covered mountains, presents a great opportunity for irrigation on a colossal scale. The water supply is ample, but little of it is used for irrigation because this has been the land of princely wheat farms for which California is famous, and the development of intensive farming systems has only lately begun. Within the past few years several irrigation canals have been constructed and now it is proposed by the engineers of the National Reclamation Service to construct a mammoth system of engineering works by which the whole of this splendid prairie may in time be

basins, and investigations, so far as they have proceeded, indicate that every available irrigable acre may be supplied with water. One reservoir site on the Pit River, the principal tributary of the Sacramento, has a possible capacity of 3,000,000 acre feet, enough to cover one foot deep every acre of the twenty-five great irrigation projects now being built by Uncle Sam.

The construction of the reservoirs necessary to increase the irrigation of the millions of acres of dry lands in this valley will, it is asserted, practically effect the reclamation of the million acres of swamp lands in Sacramento and San Joaquin rivers. The drainage problem is scarcely second to the irrigation problem in this basin, and it is complicated by the presence in the rivers of vast

Concluded on Page 228

Deciduous Fruit Cultu

MAKING RAISINS IN CALIFORNIA.

THE raisin industry of California compares well with orange growing in the volume of output of the product in the green state. The oranges foot up about 20,000 cars, which, of course, is in the green state. Raisins amount to about 5000 cars, which would amount close onto 20,000 if shipped green. The crop has amounted to as much as 103,000,000 pounds of the cured raisins.

The increase is not as rapid as might have been had not disease arisen from the lack of knowledge in handling lands that have become alkaline. Raisins were made in California as long as fifty years ago. Malaga and Faher Szagos were made into raisins at one time, but Muscat and Muscatell now make the bulk of the raisins cured in the State. From these are made seeded raisins which are without doubt the acme in the raisin line. Seedless Sultana and Thompson seedless make the seedless grape of the currant class, but they have a distinct flavor from the seeded Muscat. The true Zante currant is raised in a small way in certain parts of the State but the Thompson Seedless has supplanted it almost exclusively, being larger and in most places a better bearer.

Harvest begins in the northern raisin sections about the last of August and in Southern California about a month later. In the desert regions which have so far produced little more than samples, the harvest begins about the middle of July. There is little doubt that the desert will sometime produce the sweetest raisins grown.

There are certain sections where the finest Muscats are used in making London Layers. These are the perfect bunches that are placed on the drying trays as they are cut from the vines, being so arranged that they will produce the handsomest appearance when dried. They are not molested after being placed on the tray, except to turn them over. After the stems dry, they must be left in position and so packed in boxes for the market.

Each packer in the vineyard is provided with two trays, one being used for perfect bunches for London Layers and the other for imperfect bunches and scraps. The latter are run through a machine which knocks the stems off and are afterward boxed as stemmed raisins, or made into seeded raisins. Before improved machinery was introduced for this purpose, a limited quantity of seedless Muscats were produced from the small raisins which grade into the smallest size.

After the grapes have lain in the vineyard till the upper sides of the bunches have turned brown and are shriveled two men go down the rows placing an empty tray on top and turning both over, thus leaving the grapes turned onto the tray with the brown and partly dried side down. After the grapes are dried to a sort of rubber consistency, they are stacked to a convenient height. The test for this stage is when a jelly will come out of the stem end when rolled between the fingers. The stacking is done in the morning while the stems are tough so as to prevent breaking. The raisins may be left in the field a few days, care being taken not to allow them to become so dry that the jelly test cannot be made on the larger berries. They are hauled to the raisin house and placed in sweat boxes and stacked one above the other squarely and placed in a room that

can be closed tightly or ventilated will. These boxes are a little more than two by three feet and six inches deep. When layers are laid the bunches are laid without touching on heavy paper, one layer above other till the boxes are full. When the sweating process has been used for fifteen or twenty days, raisins are so cured that there is even degree of texture throughout the entire lot.

The sweat boxes are taken to packing tables and the bunches are trimmed and packed in boxes holding five pounds for London Layers. Blowers of Woodland invented a device which is used for packing, a metal tray the size of the inside of the packing box and has a movable frame. The bunches are placed on the tray with the most of the stems up. The frame is filled till the tray is five pounds pressed down and this is placed a sheet of paper on top of this is placed a steel plate that will fit into the regular packing box, the whole thing turned over and placed in the box, the steel sheet drawn out and the metal box removed. This makes a handsomely finished box packed.

When standard sizes are made, boxes holding twenty pounds are used. Loose grapes and the imperfect bunches are run through a stemmer and graded into four sizes. They are packed into boxes that are sent to the stores.

PECAN CULTURE.

The article on "Pecan Culture," Prof. Craig of Cornell, which you recently published prompts me to make some remarks on the subject of local interest.

The idea has been that the pecan was at least a doubtful crop in California because of the experience of some that certain trees planted many years ago either bore no fruit or fruit (nuts) of poor quality. It may be remembered that this was the same with the walnut until some growers in Santa Barbara and Los Angeles succeeded in producing strings of prolific and hardy strains.

I have observed the pecan growing closely of late, in various parts, between Butte county and Tulare. At Oroville are large pecan trees, many of them bearing full, regular crops of nuts of very superior quality and I find the same through the Sacramento Valley, in Solano county, through the San Joaquin Valley far as Grangeville, Tulare county. I doubt they would be equally successful anywhere in the warm, interior valleys, and through Southern California. The trees grow well near the coast, and, as a street or tree are unsurpassed, being of symmetrical, upright growth, and clear, bright foliage, but a warmer climate is needed to mature the nuts.

The pecan already rivals the walnut, and government experts on foreign markets express the opinion that it may supercede it. At any rate, we can grow pecans as successfully in California as in Georgia, Florida or Texas, we might as well be in the swim.

While there are a large number of improved, named varieties—selected seedlings originally, and grafted therefrom—it is also a fact that really prolific, soft-shell nuts will produce in kind to a very considerable extent. It is then, to plant such seedlings in orchard form; any trees that did not produce the best nuts could in time be grafted over. At present we have not the grafts, but nursery men should be raising a stock for future demand.—LEONARD COATE, Morganhill, Santa Clara county.

I.H.C. IRRIGATING ENGINES

If the Water is Lower Than Your Land an I.H.C. Gasoline Engine Will Solve the Problem.

THAT is often the problem with irrigators—the water is lower than the head of the ditch.

The old way of doing was to construct the ditch up stream (often several miles) and head it high enough so that the water would flow down upon the land. If the only available water was a lake or pond below the land, irrigation was usually abandoned, because it was thought that the water could not be pumped up in sufficient quantities, or the pumping operation would be too expensive.

Irrigators know better these days. They are now placing I. H. C. gasoline engines on the banks of these low lying lakes and converting the waters to a beneficial use on their thirsty lands.

They no longer find it necessary to build miles of extra ditch to get fall enough to reach the lands. An I. H. C. engine will take the water from the stream where it flows through or near the farm, and raise it any reasonable height.

Irrigation problems are solved with the I. H. C. engines, because they have three main characteristics that adapt them to the work:

First—They pump water in unlimited quantities.
Second—They raise water at a low cost.
Third—They make a near approach to self operation. When set going they run for long intervals, regularly and dependably, with the least possible attention. The result is that I. H. C. gasoline engines are completely changing irrigating methods. Fertile but dry uplands are being brought under cultivation where a few years ago that was thought to be impossible.

Have you a dry farm on your hands?

Or do you know of a fine piece of land you would like to homestead if you could get some "unappropriated" water for it?

There is no reason why you should abandon your project. There's always near at hand a low lying lake or a slough or an underflow or a well or a stream down at the foot of the bluff. Find anyone of these, and an I. H. C. engine will put the water where you want it.

The engines are made in various styles, Vertical, Horizontal—Portable and Stationary. They range from 2 to 20-Horse Power.

Look into the matter and see which one of these irrigating powers will do for you. The local International agent will be glad to talk over your particular case, furnishing catalog and giving engine particulars. Or if you prefer, write nearest branch house for catalog.

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Seed Potatoes

LY EUREKA—1 lb., 25c; 10 lbs, prepaid. Not prepaid, 4c per lb., per 100 lbs.

than Early Rose, ripens with Triumph. Round smooth like Burbank but rounder. Fine quality.

LE GIDEON'S QUICK LUNCH—10c; 10 lbs., \$1.50 prepaid. Not prepaid, 6c per lb., \$5.00 per 100 lbs. Best potato we have ever tried. Entirely new appearance. Earlier than Early Rose, Early Eureka or Triumph. Heavy and fine quality.

grape vines, table varieties for next season. Pioneer Nursery, Monrovia, Cal

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fruit plants later, also full line of fruit plants. If interested, mention paper and send for catalog.

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THIS MONTH.

MANY varieties of vegetable seed may be sown this month.

Plant out cabbage and cauliflower plants which were sown in July. Plant a good bed of Earliana or Richmond tomatoes for winter crop. Also beets, Swiss Chard, spinach, etc. Plant largely of peas (Yorkshire Hero is the favorite). These will be ready about holidays, when price is high. Canadian Wonder, French Kidney or Ventura Wonder beans will also produce till the holidays if planted now.

Keep the compost heap wet and turn occasionally. Weeds in a compost heap are far better than in the corners affording breeding places for all kinds of worms and pests.

THE FRUITING OF CUCUMBERS.

Not a few people are puzzled by the behavior of cucumber vines in the gardens and complain that although the vines are blossoming full, little or no fruit sets. A number of inquiries of this nature have already been received at the Colorado Agricultural College Experiment Station this year.

The reason for this is as follows: There are two kinds of blossoms upon the cucumber vines, as well as upon a number of other plants of similar nature. The first blossoms to set, and by far the most numerous throughout the life of the plant, are what are known as male flowers. These are imperfect in their makeup, for the reason that they lack the pistil, or that part from which the fruit and seed are formed, but it bears an abundance of pollen which is necessary to the development of the pistil of the pistillate flowers.

The other, or pistillate flowers, sometimes called the female blossoms, are produced later in the season and are also imperfect, for the reason that they usually lack stamens, but are provided with a pistil. The pistillate flowers can readily be told, because there is a miniature cucumber at its base, even before the bud has opened.

Now, in order to produce fruit, it is necessary for pollen from the staminate blossoms to be transferred to the pistil of the other class of flowers. When grown in the green house, the work of pollination must be done by hand, but out of doors, there are always insect visitors enough to perform this important work. In fact, this is one of nature's provisions by which cross-fertilization of plants is effected. Insects of many and various kinds visit from blossom to blossom and as they go to the staminate flowers their bodies become dusted with the pollen; then as they chance to visit a pistillate flower, some of the pollen is bound to be left upon the receptive surface of the pistil. This in plants is known as pollination.

The pollen grains have the power of germination much like a grain of corn. The end of the pistil is moist so that the grains soon germinate and the germ tube finds its way down through the pistil to the immature seeds which it enters and gives up a portion of its protoplasm. This process is known as fertilization.

As a rule it may be stated that no fruit of any kind can be produced without this process of pollination and fertilization. Fertilization incites the immature seeds into growth and this, of course, causes the parts which surround them, as in the case of cucumbers, to grow, and the re-

sult is what we call the matured fruit, which in this case is not strictly correct.

Certain conditions which are not well understood seem to keep the plant producing staminate blossoms at the expense of early fruit production. But in a general way, we cannot materially hasten the formation of pistillate blossoms. We should see to it, therefore, that the plants are kept in a vigorous growing condition by planting them, first of all, in good garden soil, and seeing that they are supplied with an abundance of moisture at all times.—W. PADDOCK.

PARCELS POST.

Writing from Nice, Vice-Consul A. Piatti, states that he considers it important to indicate that the establishment of a parcels post, such as exists between France and Great Britain, would be a very important factor in the creation of trade. He continues:

It would facilitate to a marked extent the sending of samples of many goods that would find an opening in this market, to say nothing of the creation of a semi-retail trade, such as now exists between France and Great Britain, and which certainly amounts to a very considerable sum per annum. Taking into consideration our American activity in advertising, the variety of our manufacturers, and the keen competition existing among our manufacturers, I venture to predict that this branch of trade would, in a very few years, outstrip that done with the United Kingdom.

BACTERIA AND MANURES.

A Russian scientists has been working on the action of ferments in stable manure and has found that while they liberate considerable ammonia, manures that have been sterilized lose much more through the process of sterilization. In ordinary practice, this is not done, but in certain work, seed bed work for instance, it is sometimes desirable to heat the soil and manure to kill the seeds and fungus spores. This drives off about one-third of the ammonia contained in the manure.

INFLUENCE OF FERTILIZERS ON TUBERCLES.

It is found that there was a great difference in the development of root tubercles on legumes when different food ingredients are supplied. Potash and lime salts promoted the growth of the tubercles and in the absence of magnesium, none were formed. On the other hand, when potassium nitrate was present in quantity greater than 1 to 10,000, no tubercles were formed. The experiments were made in water cultures so that every part of the experiment was under control.

The legislature of Wisconsin has appropriated ten thousand dollars for the purchase of land at tax sales. Whatever land any county becomes possessed of from non-payment of taxes must be offered to the Public Land Commissioner before it can be sold to anybody else. The land so purchased is to be added to the State Forest Reserves. In this way the State can gradually recover land which it has carelessly permitted to pass into private hands and be despoiled of its wealth of timber. If the State had held these timber lands from the beginning it would have been immensely better off. It is to be hoped that these dismantled lands will be reforested and that therefore, something may yet be saved out of the wreck.

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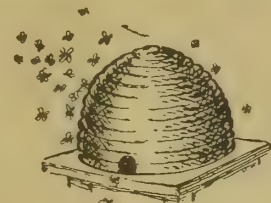
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That is about what happens each year for the man who owns five cows and does not use a Tubular cream separator. He loses in cream more than the price of a good cow. The more cows he owns the greater the loss. This is a fact on which Agricultural Colleges, Dairy Experts and the best Dairymen all agree, and so do you if you use a Tubular. If not, it's high time you



did. You can't afford to lose the price of one or more cows each year—there's no reason why you should. Get a Tubular and get more and better cream out of the milk; save time and labor and have warm sweet skimmed milk for the calves. Don't buy some cheap rattle-trap thing called a separator; that won't do any good. You need a real skimmer that does perfect work, skims clean, thick or thin, hot or cold; runs easy; simple in construction; easily understood. That's the Tubular and there is but one Tubular, the Sharples Tubular. Don't you want our little book "Business Dairymen," and our Catalog A. 280 both free? A postal will bring them.

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Our Herd Bull
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As we have dispersed our herd, except a few heifers for home use, we are forced to offer for sale this valuable sire. We will sell him at a low price to a breeder who is in a position to give this bull a chance to make a record.

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Live Stock and Dairy

FILLING THE SILO WITH ALFALFA.

THE placing of the men and teams for this work will depend on the number of men employed and the number of wagons, as well as the haul to the silo. It works out better to have extra capacity in the cutter and engine, than to be over-flush with men and horses in the field. It is easy to shut down the engine for a half, or quarter day while the teams catch up with their work. The alfalfa silage is better when filled in slower than when rushed in too fast. When I have filled in twenty feet of silage in two days, I have not had as good ensilage as when I was four or five days having the same amount of silo filled. The slower filling gives time for even heating of contents rather than an over-heating of the lower portions of the silage.

At Work.

Start to cut the alfalfa on Monday afternoon, raking it into windrows first, and then into cocks. On Tuesday morning begin to haul to the silo. The mowers are kept half a day in advance of the hauling in. The rakes follow the mowers right along. The reason for not hauling in at once is that the alfalfa wilts, this softens the main stems and when they are cut up they are soft and pack readily to place in the silo. It is the same in packing grapes for the market; if the stems are not wilted the baskets arrive only half full at the end of the journey. To every four teams hauling, allow one extra man to help load in the field.

Loading.

We load by hand from the cocks as the hayloaders are thrown off by the checks in the alfalfa field. Sheets are used on the wagons, two usually. The first one is placed on the wagon, the hay forked on it and then when it has about half the carrying capacity of the wagon, a second sheet is spread over the hay and another lot placed on it. These sheets are home made and are usually good for a couple of years service. Take the widest unbleached muslin in the market and sew two widths together, making a sheet two feet larger all around than the wagon bed. Double stitch the seams and take a rope, (we use window cord) sew it into a seam along the edges. At each corner and half way between, thread on the rope four-inch iron rings, sew them firmly to place. At the cutter a derrick pole with block and tackle lifts off the hay by having a rope run through the rings to lift up the mass and swing in down beside the machine, letting loose of the rope in the rings on one side promptly empties the sheets of the hay.

Tramper and Cutter.

The two men, one that tramps in the silo, the other—that cuts—take turn about hourly, as well as the man that forks the hay over to the cutter. Now if a gasoline engine is used this man can be used to see that it keeps going and does not have the belts slipping. The blowers to raise the alfalfa or corn into the silo are used almost altogether. Yet there are several makes that fail on alfalfa. My neighbors at Medera bought a blower for alfalfa silage. Fortunately with a written guarantee that it would work. When it did not, he had some re-

dress. Otherwise he would have today a useless piece of machinery on hand. The traveling tables also rarely work well on alfalfa; this should be purchased with a written guarantee. The first silage I made was naturally corn; on this food stuff the traveling table did fine work; two years later the same table proved useless on alfalfa.

Water.

Now in Fresno, we find that we have sweeter and lighter colored alfalfa silage when we use plenty of water. The early cutting may have dew on it, then we do not use water, but in the summer cuttings the water is essential as it fills every spot. When there are no air spaces the silage is good; if there are spaces that are dry then a white mold appears that is intensely bitter to taste, that the cows dislike extremely. We often mix in wheat or barley straw with green alfalfa, one load to six or seven; while this may seem like weakening the feeding value of the ensilage yet the cows relish it and there is no dropping in the milk yield.

Heating.

With us alfalfa heats hotter than corn in the silo. We usually fill the silo half full, level it off and then lay off the men until the ensilage cools down to a hundred and ten degrees. This temperature is taken two feet below the surface. The silage if tramped should not settle over three feet in depth of fifteen; by chalking a line around the silo this can be tested and if it settles more than that, have the tramping more carefully looked after. The placing of the men each morning will depend on the number of wagons at work and the length of the haul. When there is not a large amount of alfalfa stacked at the machine to start the morning's work, then it is well to send out all the men to the field the first thing and hustle the loads on the wagons; let the second wagon in take the cutter, engineer and tramper, and let them then get to work. A silo crew must be started off with a good swing in the morning if there is to be good work done. The slow, lazy start is a mistake. It is better to make men start at something promptly even if it is not of much account, than to have them loiter.

Keep Going.

If at any time the field crew falls behind, send the men from the cutter to help them out, shutting down the engine for the time. The secret of success in handling men is to move; good men want leadership not someone crawling after them. Pushing the work along by leading is better than by scolding at the poorness of labor. Men like to work where something is finished each day, where they see the work they have done grow under their hands. The crew we work with on a short haul are divided as follows: Engineer, feedman at cutter, man inside the silo, one helper at cutter, two mowers, who also do the raking, four teamsters that haul and load, one extra man in the field to help load. This force in the field can be doubled by putting on an extra man to load and one for continuous raking, eight wagons can be kept going all the while.

Filling a Silo.

The ensilage as it is delivered into

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

SORE SHOULDERS

I would like very much to personally meet reader of this paper who owns any horses that sore shoulders and tell him about Security Salve. This is impossible so I am going to tell through the paper.

You and I both know that horses working sore shoulders are in pain, and that they can do much work without running down as when are free from pain. I also know perfectly well Security Gail Salve will cure these shoulders if you do not know it. If you did you would have your dealer at once and cure them up. I have no doubt often wished that you knew something you could rely on. You can rely on Security Gail Salve. It will do its work even if you prefer to try it first. I will mail a sample can free. Just write for it—it will go on first mail.

Also I want to tell you that Security Anti-Healer is as good for barb wire cuts as Security Gail Salve is for harness galls. Dealers carry in 25c, 50c and \$1.00 sizes. Use them for your guarantee your perfect satisfaction.

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Quail are said to be one of the greatest pests in the Coachella valley and they are said to have destroyed vast numbers of the little lady bird imported to keep down the mealy aphids. They also destroyed many grapes.

Cream Coolers

You should cool your cream as it comes from the separator. Our Cone cooler will cool to within two degrees temperature of water. Eliminates all bad odors and improves quality of cream and butter. Send \$1.75 for sample.

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1 Cooler	\$1.75 each	\$2.50 each
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These Coolers are durable, practical and easy to clean and reasonable price. You cannot afford to be without one.

We carry a large stock of "Star" Copper Coolers at prices from \$15.00 up.

Write us for prices on Pasteurizers (we have them in stock), Ripeners, Cream Separators, Engines and Boilers, Milking Machines. We supply anything used in a Dairy, Creamery or Cheese Factory. Our goods are "up to date."

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Our Milkers operated by Foot Power are very simple, durable, easy to operate and will milk from 20 to 26 cows per hour. If you are milking cows, write us for circulars and prices, or call and we will arrange to show you our machines in **actual operation**. Our milking machines have been in daily use for ten months in Southern California—and are **still in use**.

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Phones: Sunset, Broadway 5006; Home 2627

to from either a blower or elevator strikes a circular piece of galvanized iron that acts as a spreader. Iron is made with sloping sides large enough to throw the cut to the sides and against the of the silo. Here it is trapped into place, always keeping the raised several inches above the in filling it. There is no or covering required. After silo is full the top is leveled and trapped, then twenty-five bucket-water are poured over the top.

salt is used in ensilage making. assume that it is here that failures ten come from not understanding the "why." A silo is merely a can; it must have tight sides a tight bottom, only the top is to the air. Now we cut up the or alfalfa into small pieces and them in from the top, trampling closely to exclude as much of the as possible. What occurs next? It may be a fermentation or may be bacteria. If the learned sors are not yet agreed as to the al causes let us be satisfied with ing results. Carbonic acid gas rmed and oxygen is expelled by heating. The contents are cooked their own heat and rendered ster- o decay, as long as kept from air.

ing. The silo is usually filled a little than half full and then let stand couple of days to settle; when the on the bare arm can be readily e in the ensilage two feet from surface the silo should be com- ly filled. The mould forms over etop and makes an air tight seal- e Just as it used to do in the big e jars at grandmother's that held gallons of strawberry preserves. mold on top keeping the contents ectly air tight.

ers. We have used three: The Boss, Ohio, the Belle City. All are . Get a guarantee signed that will do the work on alfalfa as as on corn. The traveling tables a not work nor the blowers carry

Veterinary Instruments, Black Leg and Trax Cure, Milk Fever Outfits. See Weber Co., 555-557 S. Los Angeles St., Los Angeles.

alfalfa that are perfect on corn. We have used whatever power the ranch afforded, the first was the old straw and brush-burning engine that I had left from the days of grain farm. Then later a gasoline engine used for pumping from irrigation wells has been the power. The amount of power needed will be easily found out when you decide on the cutter and blower, but certainly not less than twenty, for I am not at all satisfied with the work of the 15-horse power gasoline engine.—M. E. Sherman.

PROGRAM CALIFORNIA LIVE STOCK BREEDERS.

At the Chamber of Commerce, Sacramento, September 11, will be given the following programme:

President's Address.

"The Brood Sow," G. A. Murphy.

"Milking Shorthorns," John Lynch.

Address, Prof. W. L. Carlyle, University of Colorado.

"Herefords," Col. J. J. Steadman.

"The Jersey as an Economic Dairy Animal in California," Claud D. Tribble.

Hon. W. M. Hays, Assistant Secretary of Agriculture, Washington, D. C., is expected and if present will address the convention.

Annual Business Meeting, Thursday, September 12, 1907, Chamber of Commerce 5 p.m.

A GOOD HINT ON MILKING.

Mr. A. F. Sorenson, of Howard Co., Neb., writes a very thoughtful article to the Homestead on his method of breaking young heifers to be milked. His method, as described, is as follows:

About fifteen or twenty minutes before the cow is milked the first time the lard should be applied to the teats and when through milking wipe the teats perfectly dry with a dry soft cloth and apply the lard again. This was usually found necessary for about five or six milkings. Many milkers have the bad habit of wetting their fingers when milking, and when the teats of young cows are left in this condition, especially in the winter time, they get sore, while lard heals or takes away the soreness

For practical cow milking machine see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles.

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Shorthorned Cattle and Berkshire Swine

Owned and Bred by Judge Carroll Cook of San Francisco, Cal.

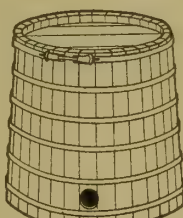
Auction Sale of Pure Bred California State Fair

Sale to take place on State Agricultural Grounds, at Sacramento, Cal., at 10 A. M., on Saturday, September 14th, 1907. Write for Catalogue.

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(Kow Breakfast Food) For Sale

At fifty cents per ton F. O. B. cars or wagon, fresh from factory. Conceded to be the cheapest and best Dairy Food in California. Write for freight rate if too far to haul.

Los Alamitos Sugar Company

Los Alamitos, Cal.

that is so natural, considering that many milkers have rough, hard hands and considering that the teats are not accustomed to the milking process.

I once visited a farm where they had a fine, young Holstein cow, which had just come in for the first time, and the milker and the poor animal had gone through most everything during the first three milkings. The cow had no means of telling her sufferings except with kicks, and the owner, although a kind, intelligent person, could not think of other methods to apply, except what he had used so often before with other cows—tying her with straps or ropes. He decided then to let her keep the calf, as it seemed an impossibility to milk her. It was then that I happened to have my attention called to it, so I told him of our method, which we at that time had tried only with three or four young cows. He simply laughed at me when I suggested that I would myself apply the lard. But the poor cow's teats were now so sore that she would not even let the calf touch her. With considerable patting and rubbing and kind words, I had the satisfaction of getting the

See



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Milk cows at the State Fair daily.

A. F. Steiner & Co.

Pacific Coast Representatives

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lard applied, and the still greater satisfaction of seeing the cow stand perfectly still a short time afterwards to the great astonishment of those present.

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LONG WEARING



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Mr. C. D. Levesque, of Ironside, Quebec, Canada, had a cow suffering from an attack of indigestion that refused to eat—looked as poor as a crow, and was giving only a quart of milk a day when three weeks calved. He got Pratts Animal Regulator and within three days the cow could eat a full meal and in less than six weeks she was giving *three gallons* of milk a day.

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is a preparation of rare and costly roots and herbs, imported from Europe, Asia and Africa.

You get more milk, richer milk, and better milk by using Pratts Animal Regulator, and at the same time keep your cows strong and healthy.

25-pound bag, \$3.25. Smaller sizes also.

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If there is anything wrong with any of your live stock—poultry, horses, cows, hogs or sheep—be sure to write to us. Our expert veterinarians will write and tell you what to do immediately.

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Each package of Pratts Animal Regulator is accompanied by a written guarantee from the Pratt Food Company, which is signed by the President of the Company and also by your dealer.

Our new books are now being printed. Regular price, 25 cents, but **FREE** to you if you send your name and address, mentioning which you want:

Pratts New Horse Book Pratts New Cattle Book Pratts New Hog Book
Pratts New Sheep Book Pratts New Poultry Book

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PHILADELPHIA, PA.

A NEW BREED OF DRAFT HORSES.

The Iowa State College at Ames is co-operating with the United States government in a breeding experiment to establish a breed of grey draft horses. An importation of grey Shires and Clydesdales arrived at Ames about two weeks ago and they are to be used as the foundation stock in this work.

The object of the experiment is to combine and improve the qualities of the highest excellence of each breed, so far as possible, and to eliminate some of the characteristics that are objectionable from the American standpoint. It is the intention to combine the feet, quality, pasterns and action of the Clydesdale with the more massive proportions of the Shire and, while doing so, to establish the grey color and other essential characteristics which will eventually lead to the development of an American breed of draft horses better adapted to American conditions than any of the foreign breeds.

It is the opinion of the best informed horsemen that the crossing of these breeds will not be attended with the usual uncertain results of cross-breeding experiments, as they have practically the same origin and have been bred along quite similar lines for many generations. Lawrence Drew, the most successful Clydesdale breeder of his time, unquestionably made use of Shire blood in his operations and the famous sire, Prince of Wales, is generally conceded to have had a Shire dam. Moreover, some of the most noted geldings seen in American show rings in recent years have combined the blood of these two breeds.

In adhering to the grey color there will be no radical departure from the original characteristics of these breeds, as grey has been a common, if not a prevailing color of both breeds, and many of the best specimens of each breed are still found among the greys. In America grey is the popular draft horse color and, other things being equal, a grey gelding commands more money on the market than one of any other color.

A study of blood lines and draft types decided Secretary Wilson of the United States Department of Agriculture and Professor Curtiss and Kennedy of the Iowa State College, to select the Shire and Clydesdale breeds for the beginning of the experiment, though some of the grey Percheron blood may possibly be used later in the progress of the experiment.

The importation consists of eight animals, one stallion and two mares of the Clydesdale breed, and one stallion and four mares of the Shire breed. These individuals are all of out-standing excellence. Professor W. J. Kennedy picked them from the cream of European studs, and they are an ideal bunch to start the great experimental breed on the way to popularity.

This experiment is already attracting much attention. The work with

horses at Fort Collins, Colorado, started two years ago is of a kindred sort except at that point the Government is working toward a breed of carriage horses, while at Ames it is in the interest of the drafters. The Federal Government in both instances is furnishing one-half of the funds to carry on the work. Another important will probably be made next year.

MILK FEVER.

A great many theories have been advanced to explain the cause of milk fever, but none have stood the test of time and investigation. The theory that has given anything like a satisfactory explanation is that Schmidt, German veterinarian, claims that the disease is due to a bacterial affection of the milk in the udder. While this theory will not count for many of the facts in connection with the disease, the treatment based upon it gives the best results of any line of treatment that has as yet been advocated. This consisted in injecting medicine into the udder through the teats. More recently it has been found that an injection of sterilized air works just as well, and an instrument for this purpose may be procured from any veterinary instrument maker. But it is not so much the treatment as it is the prevention of the disease that we wish to discuss.

The conditions that most frequently exist where cows are affected, may be said that fatness is one of the most constant present. Among others are lack of exercise, poorly ventilated barns and constipation. Now what do these facts indicate to show us? Nothing more or less than this: If we remove them we largely, or wholly prevent the disease. If this is the case, and we believe it is, the question arises how can this be done with the least trouble and expense. One of the easiest and best things to do to reduce the quantity of the milk a couple of weeks before the cow is due to calve. Furthermore, easily digested foods should be given that are rather laxative, such as bran, cake meal, cottonseed meal, etc. In addition to this give exercise by allowing the animal, when practicable, the run of a good sized barn lot, where this is not practicable, give the exercise by having her led or driven about each day. Keep the stable well ventilated. If such care is taken with heavy milkers there will be but little danger of their contracting the disease. Should a cow develop under such conditions would be advisable to call a qualified veterinarian because such cases usually call for some additional treatment to that of the inflation of the udder with sterilized air.

CALIFORNIA HOLSTEIN TRANSFERS.

Cows.

Celeste Aida, Countess Juanita D. Kol, Frolic of Entrada and Winona J. hanna, Estate of Ozro Mitchell to Walter Mitchell, Visalia. Clay Regina, Countess Wanda, Ethel Clifton I. Kol and Merry Christmas, Estate of Ozro Mitchell to E. C. Jones, Visalia. Lady Lenore, Paul De Kol Queen, and Poor Ellen, Estate of Ozro Mitchell to Arthur G. Mitchell, Visalia.

The greatest obstacle the dairymen of Imperial valley have to overcome is the shortage of labor, and in one respect this is being met by the introduction of the milking machine.



COWS MAKE MONEY

if they are properly handled and if the right kind of apparatus is used.

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The Ornamental Garden

THIS MONTH.

Time is drawing closer for early fall garden work. Prick off gladioli, Cinerarias and Primroses last month into small pots, continue sowing same for succulents. Pansies can be grown better in pots, as they are not so liable to be attacked by red spider. Sow hardy annuals and perennials as pansies and Stock-scabiosa and geraniums. Commence planting hyacinths, tulips, anemones, crocus, daffodils, narcissus and other Dutch bulbs by the end of the month. To give roses plenty of water fertilize.

WORK ON THE LAWN.

It is a good time of the year to work on the lawn. Keep it growing well trimmed. Don't you know a green lawn is the handsomest ornament a California home can boast. You can take your friends out to some rare plant and their "ohs"

STARTING PANSIES.

The bright little pansy face which greets one from its flower bed is a flower loved by all. It is called "Heart's Ease," and is only the big sister of the humble little violet. It is wise to buy only the best seeds, for there is a vast difference between the fine and hybrid species. It is best to start pansies in the house, and this is how one woman starts her young plants, and they are always large and beautiful. She bakes the earth in the oven, which kills all the weed seeds and tiny bugs in the soil. Then this is sieved, mixed with sand, then shallow cigar boxes are filled with the mixture. Pansy seeds are sown, but in this case it is best to cover them slightly with the soft earth and moisten slightly by the absorption from the bottom of the box, or the seeds may all sprout in one place. As they grow and develop, select only the strongest for the flower beds. To make pansies flourish, they should be

may have a continuous crop by planting often. Another way to have blooms all season is to keep every bloom from going to seed, and water often.

The lawn should be kept trimmed and watered very carefully. Do not let it go long without water. It will suffer and turn brown if not watered often. Give it a good soaking once or twice a week and a good sprinkle every other evening. Look out for moles and gophers.

SOWING SEEDS.

Never sow while the soil is wet and muddy. It is better to be too dry than too wet. After the seeds are sown they may be covered by sifting over them the fine compost to the right depth. Then water artificially. Loosen the surface to keep it moist until the seedlings make their appearance.

Keep seed pods and even flowers closely picked off if you want more flowers.

We note in an exchange that roses do best near sunflowers. Is this true? Has any one ever observed any such



Kerman Water Supply

This Picture is Made from a Photograph of the Intake Dam of the Canal System That Supplies Water to the Kerman District

"ahs" compensate for a lot of work to bring it to perfection. For quiet restfulness and genuine satisfaction nothing equals a lawn.

Don't get busy with not only the one side of the house, but the back lawn as well. Please don't forget the one in the backyard.

Water it thoroughly once a week or twice often. Pull out weeds, and when pulling you loosen the dirt and make an unsightly hole drop in a little of blue grass seed, cover with a little fine stable dust. In this way the lawn continually becomes more beautiful.

Don't let it look sickly put some nitrate of soda on it, do not use it dry or put too much, or you will do more harm than good. The safest way is to put handfuls in a twelve quart water-can, dissolve in water and sprinkle in the grass.

Also start a compost heap to have well-rotted dressing a few months later.

It takes richness to make a rich lawn, but it's worth it. Many one tells you that the "lawn" is full of mosquitos tell them to "go to." No one ever saw a "wiggler" on a lawn yet.

It takes stagnant water to breed a pest, which, if you will cover with a net fixes that.

Early to bed and early to rise makes a man healthy, wealthy—or otherwise.

sheltered from all but the morning sun, blossoms must be picked each day, for it is earnest in propagating its own species. They like moderately rich garden soil, and repay any kindness shown them in beautiful flowers.

AN OLD FASHIONED FLOWER.

The Sweet William of our grandmothers is still one of the most satisfying annuals. Set out the young plants in flats or thumb pots and transplant into three-inch pots a little while before planting on the borders of the flower beds. It will be found that this care will result in more vigorous plants.

When our ancestors brought over from the old country the fashion of a flower border on the vegetable garden, they transplanted something that gave delight to many generations before moderns frowned upon old fashioned ways. There is now a disposition to go back to the flower border of our grandfathers.

Do not water roses and other shrubs that bloom freely early in the summer. They should have a rest when this blooming period is over. Withhold water and do not cultivate them. When they get dormant they may be trimmed or cut back into shape. The new growth of this season has put them all out of shape and they should be brought back.

Sweet peas may be planted now for fall or winter blooming. In fact, one

advantage to roses by having sunflowers planted near.

If you wish good dahlias be sure to give the plants all the water they require. Unless they have plenty of water they will have but few blossoms, and these will be inferior.

Do not cut the foliage away from the daffodils or tulips after they have finished blooming. Wait until the leaves are thoroughly dry before cutting them off. If this method is not observed, the succeeding year's crop will be very much impaired.

A ROOSEVELTIAN YARN.

A Washington correspondent told the other night a story that he claimed to have heard from President Roosevelt at a Gridiron club dinner.

"Two women," he said, "were discussing some new neighbors who had moved into one of the most sumptuous houses in their city.

"They seem to be very rich," said the first.

"Oh, they are," said the second.

"Shall you call?"

"Decidedly."

"You are quite sure, are you, that they are—er—quite correct, quite—er good form?"

"Oh, my dear, I'm positive," said the second woman. "They have thirty servants, eighteen horses, twelve dogs, eleven automobiles and one child."—Farm and Ranch.

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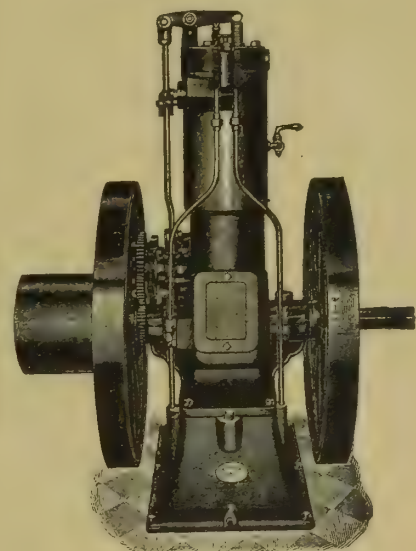
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Does this stream of water look good to you?

It certainly does to the two men standing beside it. They are the President and Treasurer of the company to whom the plant belongs.

It is raising 40 inches of water from 250 feet below where they are standing. This water goes into a reservoir 18 feet above the pump through an 8-inch pipe-line about one-eighth mile long and you cannot see a pulsation in the discharge if you try. It has been doing this for over a year. There have been no repairs, not even new leathers, and it runs better, if such were possible, today than it did a year ago.

How many pump users can say this?

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Crystal Wax Onion, "	4.00
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California Horticulturally

SOMETHING ABOUT THE CORN WORM.

MANY complaints have reached this office in relation to the destructive work of the corn worm and one correspondent asking for information, says: "I suppose most people do not know whether the parent of the worm is a bug, a beetle, a miller or a butterfly."

The parent of the corn worm is a moth, and its scientific name is *Heliothis armingeri*. It does not confine its destructive work to corn, but is to some extent an all-around pest. It is one of the worst pests of cotton and is known as the cotton-boll worm; it is also a severe pest of tomatoes, the common tomato worm being the same as the corn worm. Very many of our vegetables are subject to attack by it, and altogether it is one of the worst pests the gardener has to contend with.

The parent is a night-flying moth, measuring about an inch and a half across its expanded wings. It is yellowish in color and the wings are marked in black. The worms differ so much in color that they might be taken for different species, and range from very light to dark striped. The lighter forms are usually those which have been enclosed in their food plant and so protected from the sun.

The eggs are laid during the evening on some proper food plant and hatch in a few days. They remain in the worm form from two weeks to a month, when they leave the plant and enter the ground, where they change into a moth and in a short time come forth full fledged and ready to start another generation of corn worms.

As this worm, for the most part, burrows into the plant or the vegetable and is entirely protected from outside attacks, it is very difficult to reach. A trap crop has been suggested, that is, some crop which the first moths would attack and lay their eggs upon. This could be destroyed with the young worms, and so future generations could be prevented and a later crop planted afterwards, be comparatively freed from their attacks. This is too cumbersome and expensive a remedy to be practical, and it may be said that there is no practical remedy for the pest in either corn or tomatoes. Late fall plowing will expose those which have taken refuge in the ground for hibernating during the winter, and may be of use where the pest is very bad.

THE SULPHUR QUESTION.

Secretary of Agriculture, Hon. James Wilson, came out to the Coast a short time since for the avowed purpose of investigating its timber interests, but when he got here he found that the results of the work of his chemists, backed up by the manifesto of his department against the use of sulphur in the drying of fruit, had stirred up such a hornet's nest about his ears that he was glad to retreat, after promising them no action should be taken against the sulphuring fruit dryers this season at any rate, and with a further promise that he would have a fresh investigation made in order to allow us further leeway in the future. So there we are; this season, at any rate, our fruit men can sulphur as usual, and before another season comes around, it will be discovered that the amount of sulphur deposited in bleaching is not harmful.

Sulphuring does not improve the food quality of fruit. That is generally admitted. But it improves its appearance and without it dried fruit would be sold and a large industry would be killed. But, aside from improving the appearance, sulphur is beneficial in destroying insect eggs which may have been deposited on the fruit in drying, thus preventing the breeding out of worms and maggots, and it also has a preserving effect, so that sulphured fruit will keep much longer than the which is not treated. It may be that sulphur in excess is injurious, but it is very doubtful whether the amount consumed on dried fruit would ever hurt anybody. We do know that in our childhood days we were regularly dosed with sulphur and molasses every spring to cleanse our system and we have survived it, and our children then was a tablespoonful every morning. We'd have to eat a lot of that to get a dose like that. The chemists of the department have made a serious mistake in this case and there is little doubt, in view of the storm of protests which have reached the secretary, that their analysis will be revised.

MORE ABOUT THE WHITE FLY

The White Fly is now being reported from all sections, in fact there is a genuine White Fly scare among the fruit growers of the State and everything that is white, regardless of size or shape is mistaken for this pest. So far, this insect has been discovered in two locations only in the State. At Marysville, where it has gained a very serious foothold, and in Kern county where it appears to be confined to one small tract and not over 100 trees in this have been found to be infested. In both instances the pest has gained entrance through the almost criminal carelessness of people who should have known better, aided by the indifference of the supervisors to the great fruit industry of their counties in the State. In Kern county there has been no system of horticultural inspection for years, no Board of Horticultural Commissioners, and anything could be imported, almost without question, to the detriment of the State. In Yuba county the work of inspection has been carelessly done and neglected altogether. In each case the supervisors have saved the expense of the Commission and have entailed upon their counties a heavy loss, many times greater than the cost would have ever been, thereby jeopardizing the greatest industry of California. But, as stated above, far the White Fly is confined to small areas, and with proper care we can prevent its wider distribution and with hard work and care we possibly extirpate it altogether. It is to be hoped that many of those counties which still object to a County Board of Horticulture will learn a lesson from this and take necessary measures to prevent even a worst pest from gaining admittance.

The California Promotion Committee writes the Cultivator that it will be glad if every Californian will send to the committee the name of friends who are residents of other States and countries, so that the committee may take up correspondence with them and tell them of California's opportunities.

The committee urges that we realize what a glorious State California is and into what a grander commonwealth it is developing with accelerating energy, and letting all the world know about it all the time.

With the Citrus Growers

PRACTICAL SUGGESTION FROM FLORIDA.

WISHING full information as possible from Florida on the White Fly situation, the Cultivator has written growers there. The first reply to reach us from Mr. E. Painter an orange grower, also of the E. O. Painter Fertilizer Co., of Jacksonville, Florida. Mr. Painter says:

Your favor of the 17th in regard to White Fly, duly received and carefully noted. I regret very much to learn that our State is troubled with the White Fly, because I know it is a great deal of anxiety and expense to the orange grower.

Our State has been troubled with this pest for years but we feel, however, that it will soon be under control as the special agents put out by the government and the growers working together have been able to get much information as to the best method of controlling this fly.

Experience has taught us that when the fly is first discovered, that time and money are saved by a considerable expenditure at that time to eradicate and stamp out the fly by defoliating the trees and foliage on every plant on which the White Fly is found and lives. In this State we find the White Fly on the Umbrella or China tree, privet hedge, jessamine and many plants that grow in the woods.

Last year the White Fly appeared in the DeLand section and an organization was at once formed among the orange growers. A committee was appointed and labor hired and whenever White Flies appeared the committee was authorized to defoliate or do whatever was necessary to thoroughly eradicate the fly. The work was so thoroughly done that the White Fly has not reappeared and the growers are congratulating themselves on the small expense they were put to, to stamp out the fly. I owned a grove in that section and I think my expenses amounted to about \$7 including my membership in the society. The extent of my grove was five acres, so you can see I got off very lightly.

Where the White Fly has taken possession of a grove, sprays of different kinds have been adopted. So far the White Fly Destroyer has given good results and also Whale Oil soap. Unfortunately, however, neither of these washes seem to kill all the eggs, consequently repeated spraying have to be done.

The only thing that is relieving the anxiety of the orange growers in regard to the White Fly is that during the last few years a fungus has developed that lives on the White Fly and the larvae, so as soon as the fly is discovered in a grove the fungus is transplanted there and soon spreads all over the grove. This fungus, however, will not grow in an arid or dry country as it does best close to the sea coast where there is always plenty of moisture.

In view of the fact that the White Fly is still removed some distance from your orange groves, I would suggest that the orange people form an organization or company to eradicate the White Fly in its present stronghold. If the plants and shrubs can be defoliated I would suggest you use for this purpose a spray of Thrip Juice. Instead of using one pint to 1000 parts water, as for insecticide, use two pints to 1000 parts water and this will defoliate the tree, at least it acts that way in this State. Then have the leaves carefully gathered up and burned. You can well understand it is better to burn thousands of leaves and twigs that have no fly on them than to have one leaf with a White Fly on it.

I certainly hope the above will be a help to you and the orange growers, and you cannot be too strong in advocating prompt and heroic treatment among the growers.

First be sure that it is the Aleyrodes citri before you go to any expense. There are other White Fly that are harmless to the orange trees.—E. O. Painter.

THE RAILROAD'S SHARE.

The value of the citrus fruit crop of Southern California for the past season is said to be \$30,000,000—about double the gold yield of the State—and of this vast amount over one-third goes to the railroad companies—principally the S. P. and Santa Fe—for freight charges. Out of the other two-thirds comes the profits of the brokers, packers, shoo manufacturers, hardware dealers, spray manufacturers, pickers, other orchard help, and finally the grower gets what is left. Fortunately the past two years the price of oranges has been high and Mr. Grower has laid aside some money. But whether the price for the fruit is good or bad there is one party to the deal who never loses any season—the railroad. The other fellows that play the game may lose but not the corporation that carries the fruit to market.

The proportion of revenue that the freight carrying lines receive from the apple crop of the Pajaro valley is even larger than that they receive from the citrus crop of the south.—Pajaronian.

YOSEMITE SPECIAL MAP.

A map that will be of interest to lovers of mountain scenery throughout of the country, and to Californians in particular, has recently been completed by the United States Geological Survey in co-operation with the State of California. It embraces the Yosemite valley, that far-famed gem of the Sierra Nevada's, which was made a part of the great Yosemite National Park in March, 1905, and which for many years has been a rendezvous for tourists from all parts of the world.

The area covered by the map comprises scarcely 70 square miles, but the scale (2000 feet to the inch) is so large that the sheet is of unusual proportions—namely, 15 by 30 inches.

Owing to the large scale of the map it depicts the valley with a degree of minuteness that was not possible in any of the earlier and smaller maps. Not only is every wagon road, trail and house shown, as on the regular Geological Survey maps, but every angle and bend in the roads, however slight, every turn or zigzag in the tourist trails, and every structure, down to the smallest cabin or Indian rancheria, is faithfully recorded in its exact location. All the bridges—even the larger culverts—are indicated, and the streams themselves are carefully traced. Those that contain running water all the year round are shown by a continuous blue line; those flowing only intermittently are represented by the conventional dashes and dots.

Like the other maps published by the Survey, the Yosemite Special sheet is for sale. As it is double the size of the regular sheets its price has been fixed at 10 cents, and remittances (in cash or money order) should accompany all orders, which should be addressed to the Director of the United States Geological Survey at Washington, D. C.

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MR. TAFT'S PLATFORM.

The candidacy of Secretary Taft for the presidency has been heralded by him in a public address made at Columbus, Ohio.

Roosevelt's radical policies are accepted by him in their entirety. Taft announced himself as in favor of tariff revision, but not until after election.

He is willing, however, to have the national convention pledged for the reduction of duties.

To curb "swollen fortunes," the Secretary advocated both an income and an inheritance tax.

The latter he expounds as a safeguard against piling up colossal fortunes by the few to the immediate injury of the many.

The platform announced will have the effect of solidifying public sentiment in Mr. Taft's candidacy and of making him a most formidable possibility for the Republican nomination.

Against him will doubtless be Mr. Bryan on a platform of tariff reduction and government ownership.

A RECORD BREAKER.

Orange growers in California are bigger men this year than ever before. According to a statement made this week by the Southern Pacific and Santa Fe freight traffic officials the orange season just closed has been the most prosperous in the history of California. Since the season opened last November there has been shipped out of California from Butte County, the San Joaquin Valley and Southern California 28,000 carloads. Prices received have been most favorable, so that the gross returns from all these

shipments aggregate the large amount of \$30,800,000, practically an average of \$1100 per car. Of these \$11,000,000 went to the railroads for freight charges, leaving nearly \$20,000,000 for the shippers and growers. All of the latter is not net, however, because from it must be deducted various expenses in the way of boxing material, commissions, cost of loading and money spent in care of the groves from which the fruit was picked. But even with all these deductions the profits for the season have been larger, both in the northern section of the State and the orange districts south of the Tehachapi than any previous season. In detail the figures run: Cars of oranges shipped 28,000; number of boxes, 10,620,000; number of oranges, 3,276,000,000; gross receipts, \$30,800,000; railroads' share, \$11,000,000; growers' and shippers' share, \$19,800,000.

YOUNG FARMER'S OPPORTUNITY.

A number of years ago, writes a contributor to the Spokesman Review, a middle-aged man was crossing the Atlantic to one of the world's fairs in Europe. He was a harness maker from Canada. Before the voyage was over something or other led him to relate his early experience at his trade. He said it was a long and hard pull for him to accumulate his first thousand dollars. He worked 16 and 18 hours a day in his shop the year through with the exception of a fortnight in the winter, which he devoted to the Canadian sport of curling on the ice. He had finally arrived where he could take life a little easier and was combining business with pleasure on his transatlantic tour.

The other day a farmer remarked that his income, after paying his expenses of the farm and not including his living—that is to say, his net income—was about \$700 or \$800 a year. He added, significantly also, that he was out of debt. He has only 25 acres of land and of this only 15 are under cultivation. Out of thousands of clerks and even business and professional men in town how many can count on laying by \$700 or \$800 in cash every year?

But to return to the farmer with the 25 acres. This man started out 14 years ago without any cash to speak of, and before he began to arrive on Easy street he had a hard pull during a series of years. Like the Canadian harness maker, the first thousand dollars came exceedingly slow. Both, however, hung to it like grim death until success was achieved. There can be no better definition than that of the young man who by patience, industry and intelligence through the years of early manhood becomes established in a business or profession which yields him a good living and nets him an income which he lays by for future contingencies.

The Canadian harness maker, the farmer of a few acres, the professional or business man in town—all are on the same footing when it comes to working out the problem of success. The same traits are necessary in each, the same patience.

Away back in a New England village there lived a fatherless boy, who, exceedingly early in life, was obliged to aid in the support of the mother and younger sisters. He found employment with a hard-headed and stony-hearted descendant of the Puritans. His young life was anything but one of pleasure. Somehow or other a good angel whispered in his ear the old-time phrase, "to labor and to wait." When this young man had attained success in his chosen vocation he remarked one day that "all through those years of long hours and unremunerative work he was constantly saying to himself 'to labor and to wait.'"

Any young former who is willing to labor and to wait, applying himself industriously, keeping his brain as well as his body active, is on the road to success. Such a young man will find no time to lament his condition, to bewail the times, to rant about the rich and the poor; for his eye is fixed on the mark of the prize before him.

The Year Book of the United States Department of Agriculture is probably the most popular government publication printed today. It contains articles on all phases of agriculture. These articles are prepared by men from all sections of the United States. There are more copies of this book printed by the government than there are of any other publication and it can be obtained free of charge by addressing any of our members in Congress from this State.

BIG MEN IN CONFERENCE.

One of the most important assemblies of the year is that at Sacramento this week where leading men of the country are discussing irrigation in all its varied branches.

Certainly no subject is more vital to the State of California than this. Water is king here and its subjects are the fertile lands and every citizen of the commonwealth. That we are only in our infancy, as regards the possibilities of the State, when irrigation is reduced to a science is plain to be seen. We are destined to be the leading agricultural State west of the Mississippi. All we need is an intelligent scientific basis to build on and our wondrous climate and inexhaustible soil will accomplish the rest.

The gathering of the splendid representatives of the irrigation interests of the country, at Sacramento, cannot fail to be productive of results which will be beneficial to the Pacific Coast, and to California in particular. As Mr. Gifford Pinchot, Chief Forester of the United States, says: "We can scarcely estimate the value of California when our mountain sides are covered with forest trees which will increase our rainfall in volume and regularity."

The precipitation will not all rush down through the trees from the bare rocks, but a dense undergrowth sure to spring up under the trees, the water will be caught and held, work its way slowly all the year along into the streams. This will give a larger volume of water for irrigation in the summer, making the intensification of more land possible. Plains now barren will be converted into orchards; foothill slopes now useless for lack of water will become the most beautiful and fertile lands of all. The restored forest, once in vigor, will work its way by degrees down the mountain slope until the whole is converted into beautiful woodland.

The Owens river project will do much to solve the problem of water in Southern California. It will convert hundreds of thousands of acres of arid lands into garden spots of beauty and add untold millions to our wealth in agricultural production.

The National Irrigation Congress was invited to California says the Deseret Farmer, because of the strongest interest taken here in irrigation, development, and it is expected to give a needed impetus to irrigation building." Because of this interest in the objects, as well as from motives of hospitality and State pride, the people of California have prepared a splendid reception for delegates and will expend upwards of \$50,000 in making this the greatest irrigation celebration in history.

THE GREAT VALLEY OF CALIFORNIA.

Continued from First Page

quantities of debris washed down from the gold mines of the adjacent mountains during the period when hydraulic mining was unrestricted.

There is no thought of building this great project with the present National Reclamation Fund. The most that can be done is to make a beginning which is being done at Orland on the west side of the Sacramento valley; the sum of \$650,000 has been set aside for the construction of a small unit, comprising only 20,000 acres, a very small area compared with other projects in process of construction, but immensely important as the beginning point of the greatest of all irrigation enterprises.

A feature of this development in California will be the tremendous ultimate possibilities from the standpoint of population. The Semi-tropical climate admits of the cultivation of the most tender and consequently the most valuable plants and adds immensely to the production of crops which lend themselves to continuous growth. Small areas are sufficient for the support of large numbers, for this valley, from the northernmost to the southernmost limit, is the land of the orange, the olive and the fig.

The National Irrigation Congress was invited to California because of the strong interest taken here in irrigation development, and it is expected to give a decided impetus to irrigation building. Because of this interest in the objects, as well as from motives of hospitality and State pride, the people of California have prepared a splendid reception for delegates and will expend upwards of \$50,000 in making this the greatest irrigation celebration in history.

W. A. BEARD.

Agricultural Notes of the Pacific Coast

California

SOUTHERN.

Riverside's vineyards are holding their harvest.

Cars of peaches will be the first shipped from Hemet this season.

Peaches in the Imperial valley will ripen much earlier than usual this year.

Arlington Heights Fruit Association is the largest individual packer of peaches in California.

Riverside county has 19,900 acres of peaches, according to figures published by the Riverside Press.

Corona melon grower is coming over the size of his melons. He says that he cannot find one in the valley less than 32 pounds.

Imperial valley finds it has received more for its melon crop than any other during the season. Total receipts over one-third of a million dollars.

Is in the Palos Verdes hills near San Pedro, caused so much trouble that navigation in and out of the harbor and at Redondo was interrupted with.

Wiley is somewhat swelled up with the fact that her melons were sold to the mines in Klondike county and other far Northwestern states this year.

One acre of Cornichion grapes at Hemet this season nets the grower \$2.50 per acre. Who says that government inspectors in the Imperial valley is not \$2.50 per acre.

Boys at Riverside were caught stealing watermelons, who had also stolen many other melons in the valley and were given 60 days in the jail for their escapade.

Imperial valley farmers sow their seed in October and November, then about a foot high, pasture it and make it stool out and give better hay and grain crops.

Gun clubs which have been in the habit of wasting water for the purpose of ponds for wild duck, are now concerned over the new law regarding the wasting of water.

Spud crop in the Hemet valley is about one-half a stand for an unknown reason. The seed did not grow well. There is an excellent crop of peaches, peanuts and sweet corn.

Combined harvester and threshing machine at Hemet are about through and the yield was above an average. Haymen are still very busy and the hay crop while not so large, is better in quality than usual.

Box making machine manufactured by the Riverside Foundry and Machine Works, is attracting much attention as being one of the most ingenious orange-box-making machines yet manufactured.

Fruit growers of Orange county filed a complaint with the Interstate Commerce Commission regarding the rate which has prevailed for celery. This has been brought about by the recent advance in rate.

Profitableness of melon and the garden truck is appealing to growers more this year than formerly. A new association is being organized at the city of Imperial for encouraging further productions along these lines.

CENTRAL.

Watsonville has nine apple drying plants.

Santa Clara apple crop will be one-half of the average.

There are twelve thousand automobiles in California.

Drying of Muscats in the raisin section is now well under way.

Farmers began delivering beets at the Spreckle's factory on August 20.

Hanford Sentinel reports large output of fine wheat for that section.

Prof. Stubenrauch investigated fruit conditions in Pajaro valley last week.

Dried Zinfandels are bringing three to three and one-half cents per pound at Fresno.

Salinas City claims distinction because of her city orchards and flower gardens.

The Pajaro valley apple crop is freer from the codling moth than for many years.

Visalia Times is making a campaign for use of local manufactured sugar by home people.

The acreage of beets at Salinas is less than formerly, but the average crop per acre is greater.

One shipper forwarded four carloads of Bellefleurs and one of pears last week from Watsonville.

Plans are on foot in Watsonville to protect the lower portions of that section from winter floods.

A great celebration was held in Corcoran this week over the laying of the corner stone of the sugar factory.

The County Entomologist of Monterey reports the prevalence of codling moth to a greater extent than usual.

The weather observers station at San Jose is to be greatly improved by new instruments and appliances.

Big new steam plows have arrived in King City to be in readiness for turning the land for beet growing next season.

Fresno sheep herders convicted of having purposely started a destructive fire near Bakersfield were fined only \$25 apiece.

The Poultry Keepers' Union of San Benito county has a membership of sixty-two. It was organized for commercial purposes.

Fresno is making great preparations for her raisin festival next week. It will be held three days, September 9th, 10th and 11th.

Watsonville has a new apple. It is a hybrid of the Bellefleur and Siberian crab. It is said to be exquisite in coloring and quality.

San Joaquin county has eighteen thousand acres of potatoes. Some plantings yielding as high as three hundred bushels per acre.

Well's Fargo Express Company has inaugurated special express service between San Francisco and Los Angeles, with special refrigerator cars.

The Fresno Republican is making some trip-hammer blows against J. K. Armsby Company which it maintains is endeavoring to bear the raisin market.

Fresno grape growers are drying Zinfandels for shipment to France to be made into wine. It is claimed this gives better returns than local winery men are paying.

NORTHERN.

Three wineries are in full action on this season's vintage at Cordelia.

The first shipment of Tokay grapes from Wheatland was made August 10.

Mendocino county's pear growers have sold their crops at about \$35 per ton.

A carload a day of Thompson seedless grapes is shipped from Yuba city.

Twenty tons of prunes to the acre is the claim of an orchardist near Yuba city.

Ukiah pear crop will be about one hundred and thirty tons, about one-half of last year's output.

Enormous growth and unusual size of grapes is the report regarding Muscatells in Sutter county.

Twenty thousand visitors are expected at the great Irrigation Congress at Sacramento this week.

A new town is to be established near Lodi, to be known as Tokay. It will probably be painted red.

Great quantities of money are being withdrawn from the San Francisco banks for the purpose of moving the crops.

Dried peaches are quoted much better than for some time, and it is thought the sulphur scare is over for this season.

Twelve dollars a ton for wine grapes delivered at the winery is the price fixed by the California Wine Association.

A special train took over one thousand and San Francisco people as pickers to the Wheatland hop lands for the picking season.

Some California shippers of dried fruits are giving guarantees of protection against federal prosecution of sulphured goods.

Healdsburg Enterprise claims many resistant vines will be planted in Contra Costa, San Mateo, Napa and Sonoma counties this season.

Glenn county boasts a thirty-six acre rice plantation. It is the property of the Sacramento Valley Land Company and is on the Glenn grant.

A force of workers under the direction of the State Horticultural Commission, has practically finished fumigating all the White Fly infested.

The Fair Oaks Fruit Company has closed a contract for nearly all the olives in the vicinity. Price paid was \$40 for oil olives, to \$60 and \$80 for pickling olives. It is the finest crop ever in that section.

An output of dried apricots of the Vacaville section, comprising Vacaville, Suisun and Winters will be about four thousand dried tons, which at average prices, it is estimated, will bring to that community one-half million dollars.

Nevada county reports its fruit crop much short of last year, one extreme case being that of one grower who shipped two thousand boxes of apples last year, and this year his apple output was only fifty.

Standing on the summit of a certain hill in Petaluma township one can count hen houses enough, allowing one hundred chickens to each, to shelter over one hundred thousand fowls. There are easily a million hens in that township alone.—Courier.

Miscellaneous

Athena, Ore., is asking for a new creamery.

Wheat is practically all cut about Wala Wala, Wash.

Freewater, Ore., observed "peach day" on August 28th.

A plan is on foot to hold an Interstate Fair at Spokane.

Oregon prune-growers are in the midst of prune drying.

An Alaskan potato grower claims to produce a vineless potato.

Wala Wala, Wash., cannery is just beginning on the tomato pack.

Wheat shippers of Washington are alarmed at the great car shortage.

Western Montana had as early as August 20 a serious nipping frost.

Spotted fever and influenza prevail among the horses of Creston, Wash.

Washington yield of wheat will reach 41,000,000 of bushels this year.

Horses effected with glanders at Sprague, Wash., have been slaughtered.

Portland wheat buyers are snapping up all offers of wheat at top quotations.

The fruit outlook of the Freewater, Ore., district is claimed to be the finest ever.

The first shipment of honey in many weeks was received in Spokane a few days ago.

A heavy frost near Pullman, Wash., nipped many tender vegetables and did much injury.

Large plantings of fruit trees are to be made in the Rogue river valley in the coming season.

A new veterinary hospital is being constructed at the Washington State College at Pullman.

The cannery at Milton, Ore., has closed for want of funds to conduct the season's business.

The wheat crop of Washington exceeds the highest yield of other years by over four million bushels.

Farmers about Athena, Ore., are pooling fruit interests and demanding bids on the entire output of grain.

Washington creamery butter now quoted at thirty-six cents a pound is prophesied to reach fifty cents.

Seventy-three and one-half bushels club wheat to the acre is the phenomenal yield reported by a rancher near Wala Wala.

Washington farmers have suffered much loss from the early rains which have been followed by much warm and bright weather.

New warehouses are being built about Palouse and other eastern Washington points for containing the great output of wheat.

An average yield of about forty bushels of wheat to the acre for five hundred acres is the record of one rancher near Pullman, Wash.

A fruit-grower on the Twisp river who practices irrigation has succeeded in raising an immense crop of strawberries during the past season.

The experiments taken up by the Experiment Station at Corvallis on the improvement of winter wheat have resulted in vastly increased yields.

A fair crop of apples for the Willamette valley for which the Eastern demand at a fine price is made. The output will be about four hundred carloads.

PER
2 BUSHEL
SACK

\$1.90

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2 BUSHEL
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Buy the World's Famous Egg Food No. 4

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IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by all largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Hazardous feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis Worlds Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Flicher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland.
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis and Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

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Beef Scraps Raw Bone

GUARANTEED ANALYSIS:

Protein.....65%
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Made of Cooked and Dried Livers, Lungs, Melts and Clean Scraps. No fertilizer ingredients in these Beef Scraps.

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Made of Clean Beef Bones, surplus fat removed. Cleanest Raw Bone on the Market.

Pure, Clean Animal Matter Poultry Foods

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—Capt. Mitchell's S. C. White Leghorns—

Utility birds of the highest grade. They will average from 150 to 280 eggs per year. The eggs will average 2 ounces and over in weight, with smooth, white shells.

Just a few breeders left at half price. **Positively no culls.**

Carl C. Curtis, Owner

Ranch Mirasol

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A GOOD TONIC ACME ROUP CURE CURES

FED TO YOUNG CHICKS WILL KEEP THEM HEALTHY AND VIGOROUS; THE OLD FOWLS WILL MOULT QUICKER AND EASIER; PULLETS WILL LAY EARLIER AND LONGER

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IS THE BEST TONIC MADE

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Beef, Blood and Bone Will Make Your Hens Lay

This is not a medicine but a high grade nitrogenous food. Write for free booklet, "How to make Hens Lay." Our Poultry Foods are sold by all local dealers and manufactured solely by

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Also Pioneer Manufacturers of High Grade Indiana and Yolo Sts., San Francisco, Cal. fertilizers. Write for our free booklet, "Farmer's Friend." Valuable to all farmers and ranchers.

Profit in the Poultry Yard

We solicit short articles of a practiced nature from the fancier and utility breeder, giving their experiences with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

FINE POULTRY YARDS.

ABOUT a mile north of the city limits of the beautiful city of Pasadena, is located the unique bachelor hall and poultry ranch of Carl C. Curtis.

Here the visitor always finds a "glad hand" and Mr. Curtis, happy and content with his White Leghorns, Pheasants, Duroc Jersey hogs, Russian Wolf hounds and his beautiful pure bred Arabian horse.

Never Got Bit.

Here we found about 500 old birds and over 1800 of young stock; as we approached Mr. Curtis' home we were somewhat anxious and on the lookout, for we knew that Mr. Curtis not only bred Leghorns but that he was a lover and breeder of the Russian Wolf hound. Knowing that he had a number of these wonderful dogs on the ranch we were somewhat timid, but discovered that we had no grounds for fear as the dogs are very kind, and that they were confined in a strong wire cage.

We visited the incubator house where we found Mr. Curtis preparing his eggs for market; after this was finished he proceeded to show us over the ranch. We first stopped at the brooder house; although not in use at this season of the year we found many interesting, convenient and practical features.

Method of Heating.

One very interesting thing to us and one that we had been wanting to see and look into was the plan of heating with acetylene gas. Mr. Curtis heats and lights his entire plant, barn and house with acetylene gas and finds it as cheap as oil and a great deal better. It saves much work in cleaning and filling lamps for incubators and brooders. Besides being more convenient, acetylene gives a more even heat, and affords the advantage of having a light in any place desired.

The brooders or hovers are the style originated and used by Captain Mitchell and are what are known as the overhead system of heating. The floor of the brooder house and all poultry houses are cement; on this is sprinkled a thin coating of fine sand, which is sifted clean of droppings when houses are cleaned.

Yards and Houses.

Mr. Curtis uses the colony house. All houses and runs are the same size being situated with alley running entire length of ranch giving access from alley to any yard, also ability to go from one yard to another. In each yard, which is 20x140 feet, is a house 8x16 feet, the quarters for 45 birds. This gives plenty of room, as the birds are only in the house at night. All yards are the same size and contain the same number of birds excepting one, which is 40x140 feet with house 18x28. In this were 80 two-year-old hens with a record for the first year of 180 eggs each.

Dry Food vs. Mash.

In an experiment made by Mr. Curtis with two lots of hens of 60 each, one fed on a dry food, the other on a mash; he got an average of 150 eggs, but the birds fed on the dry food cost

three and one-third cents per hen per month, or 40 cents per year more than those fed on a mash.

Here is a problem for the dry man to figure out. We know that takes more care and labor to feed mash than to feed dry food in hens, but does it take 40 cents a bird more? Personally, we made the comparison as to the cost of the two foods, but have heard said that birds fed on a dry food in a hopper will eat more than when the regular way. For a feed of Mr. Curtis feeds 35 pounds to his hens.

Breeding Stock.

In all nearly 2500 birds we did find a sick bird, but found birds that would score up well as be an honor to any show, and hope the coming season will find Mr. Curtis in the show room. We pens of birds that had a record 250 eggs per hen, and was told by Mr. Curtis that no eggs were set or for hatching that were not from hens that had made a record of eggs. He expects to raise the record soon by keeping only hens that had better average than this. Anybody buying stock or eggs from him feel that they are not only getting fancy stock, but birds that are for utility as well.

AROUND THE YARDS.

Keep the young stock growing

A hen returns the greatest profit up to the time she is two years old.

Yard your birds early so they may get accustomed to their new quarters and ready for lodging.

Rooster—Talk about your pedigree stock, huh! Well, my father was \$500 rooster and my mother was \$49 incubator. How's that for ancestors?

Yard-raised poultry are preferred to farm-raised by epicures. The first is more tender and juicy.

Keep for maturity only the best of the whole lot of pullets.

Mites on Pigeons.

Please tell me through your paper how I can destroy mites on pigeons.—Mrs. H. K.

Clean up your lofts and nest with whitewash and spray with kerosene emulsion. In this way you can get rid of the mites as they will not stay on the birds.

The poultrymen around Anaheim are talking of starting an association so as to buy their feed in large lots and also cheaper. We want to get in to communication with some association that is doing the same.—J. A. B.

Petaluma has the kind of an organization you speak of. We would suggest that you write to the Petaluma Chamber of Commerce for information you desire.

Pigeon Feed.

Please tell me through the column of your paper what shall I feed mated pigeons? As I have gotten some lately.—Fletcher Chapman.

Feed your pigeons wheat and Kaffir corn and a good chick food. Give plenty of fine grit, and water for them to bathe in.

CARBOLIC ACID FOR MITES.

Think the rule to give and take good one, and as I have taken a deal in the way of help from experience I ought to give a hat may help them. There are who want a remedy for mites ce. Mites don't stay on the they are only on them at night they are on the roosts, or when re on the nests to lay. Use carbollic acid and kerosene to the under side of roosts and the ends where they rest on reports. Don't put it on the top unless care is taken that it ple time to become thor-dry before the hens go to Have the carbollic and kero-ow into all cracks and crevices the pests may hide. It is sure to them if it touches them.

the roost poles so you can em out of the sockets they rest have the acid and oil flow ll cracks. That is where they I bought a hen of a man and to get her at night. She was overed with mites and I got my stocked with them. I cleaned

another occurs in from ten to more hours. In some cases the disease runs a rapid course, in other cases longer.

Examination after death finds the liver enlarged, very large in some cases and very dark, sometimes a dark green, sometimes spotted. Its gall bladder is mostly distended with a thick, discolored bile. Its rectum and intestine are congested. When attacked a bird rapidly loses weight. Literally the flesh seems to shrink, shrivel and disappear into the air.

The germ under the microscope shows up in form both oval and round. Its deadliest effect is felt between a temperature of 85 and 100 and over. Damp, hot water is best. It cannot move of its own accord, as some other form of germs do. And it is easily killed, will die out of itself when dried; has weak resistive power and can be easily killed by disinfectants, such as carbollic, bonzoic, salicylic or sulphuric acids. By playing a spray of hot water on infected spots for ten or fifteen minutes, the germs are killed. One per cent solutions of the above acids will utterly



Residence and Yards of Carl C. Curtis, North Pasadena
See Article on Opposite Page

all out with the carbollic acid kerosene oil and have had no trouble. I take a paint brush over the ends of roosts and side of roosts once a month to make sure; also the inside of boxes, and think it helps keep way. I have been in the business in a way for about twenty years. I had about eighty hens this year. The income from eggs and sold and used in the family \$105, the food cost \$115, and the only have good, large yards to I think they made a fair wing and know all poultry keepers do as well as that.—Corres-ent in American Poultry Advo-

HOW TO TELL CHOLERA.

is may get cholera at any time year, but its ravages to the st loss set in from the hot s on into the late fall, and it l to know how to distinguish diseases which are not so much d dreaded. An authority on the t of diseases of poultry says of

is disease begins with lassitude o inclination to move. As a diarrhoea is a prominent symp- although at times does not oc- The birds, if young, may eat un- they die. Others again refuse to d are very thirsty. The tem- are of the body runs to 110 de- Sometimes the comb turns y dark, in other cases it turns a y white. Excrement is voided and is largely made up of t, thin and yellow sometimes h. It may change to green. Its ps often full of food and paral- Inoculation from one bird to

destroy it. But some substances deadly to other germs in a certain per cent solution, will not kill the cholera germ, such as alcohol, iodine, potassium, etc.

The value of disinfection in the disease goes without saying. Kill off and burn the sick fowls, then disinfect, is the remedy. Germs must pass into the stomach or get into an abraded place on the fowl to cause the disease. It is brought on the place usually by other fowls or wild birds; or the disease germs, yet rife in the soil, are carried on the feet of dogs or cats to the yards. Fowls are now, in certain localities, inoculated against death by cholera. The virus inoculated from sheep, horses or man forms an abscess where the virus entered, but shows no other symptom and does no harm, but some of the smaller animals it immediately kills. In passing from the sick to the well fowls, be very careful that you do not carry some of the virus on your hands or clothes to the fowls not yet inoculated.—Coleman's Rural World.

Worms often affect fowls, and result from filthy houses and runs. They do not cause death in every case, but are a detestation to those having large flocks. The best remedy is sulphur, a tablespoonful of which should be given once a day, for two weeks, in dry weather to a dozen or fifteen fowls. Twice a week a teaspoonful of spirits of turpentine mixed with a quart of cornmeal, moistened, should be allowed, all other foods being withheld for twenty-four hours. Air-slaked lime may also be used freely and with advantage over the floors of the houses and yards. Spade up the yard, give the premises a thorough whitewashing and burn up the old roosts and nests. Give a thorough cleaning out, rid the hens of the worms and keep the premises clean and there will be but little danger of the fowls having the same trouble again.

Egg-More for Early Molt

Don't let your hens molt for months. Don't let them get all run down and out of condition. They need to be fed a scientifically balanced ration during this trying season. EGG-MORE is just the thing to mix with good grains to make the same a rightly balanced ration. Many so-called "poultry foods" and "egg makers" are nothing but stimulants and not advisable to be fed regularly. If your poultry are already in a run down condition,

West Coast Poultry Tonic

is what they need for a short time; that is just what its name implies. It is very easy to mix a lot of ingredients, much of it a little better than refuse and call it egg food. And even if good foods are mixed it doesn't make an egg food unless the ingredients are adapted to the requirements. Some mixers of "egg food" seem to think that it is the shell alone that is to be made, forgetting that the hen has no use for the shell until she has made the egg.

Egg-More

is a concentrated food, very rich in protein, and a small quantity mixed with ground grains, or even with bran, is just what is needed to make her molt quickly and then lay lots of eggs. It is made of just such first-class materials and in such proportions as has been proven by long practical experience to serve this purpose, and at the same time to build up her system and keep her in the best of health. When a small quantity is mixed with good grains, or bran, as directed in each package, it can be fed either as a mash or as dry feed. The hens like it, they eat it, there is no waste; it makes the cheapest egg food that can be made, especially if you can buy your grains at home cheaper than to ship them in.

EGG-MORE is put up in 4-lb. packages at 35c; 25-lb. pails, \$2.00; 50-lb. sacks, \$3.75; and is for sale by many dealers. If yours doesn't keep it, or will not get it for you, we will deliver a pail or sack, freight prepaid by us.

Manufactured by the

West Coast Stock Food Co.

818 San Fernando St. (Through to Alameda) Los Angeles, Cal.

Do Not Be Deceived

Into thinking that A. C. W. Poultry Food contains toics or condiments of any kind, because it **does not**. We are manufacturers of **foods** only, not **dopes** or **cures**. Which food suits the human race best, highly spiced living or the pure, simple home living? With poultry as with men. Its purity and wholesomeness is the secret of the success of the A. C. W. We say **food, pure and simple**, properly proportioned. For sale by dealers in **100-lb.** sealed sacks. Manufactured by the



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We are the pioneer hatchers in this section. Chicks can be shipped 1,000 miles without loss. Our chicks are hatched in a 25,000-egg incubator and are strong and healthy. We make no extra charge for crating and can sell cheaper than any others in this line. Write us for prices on any Standard Breed in any quantity. Eggs from all breeds. Incubator Lots a specialty.

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Prizes Won at Alameda County Poultry Association Show, Oakland, 1907—22 Regular Prizes and 3 Silver Cups. Can furnish best birds and eggs at reasonable prices. No incubators lots furnished

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THE WHITE WYANDOTTES THAT WIN AND LAY \$15.00 and Up Per Dozen

Lakenvelders, per pair, \$8.00; trio, \$10.00.
Mammoth Bronze Turkeys Reasonable.

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Black Minorcas Exclusively "Only the Best"

Our Show Record at Los Angeles, January, 1907, 5 first prizes, 4 seconds, 4 thirds, 3 fourths, 3 fifths; also two silver cups. Great layers and will make money for you. Stock and Eggs For Sale. Catalog free.

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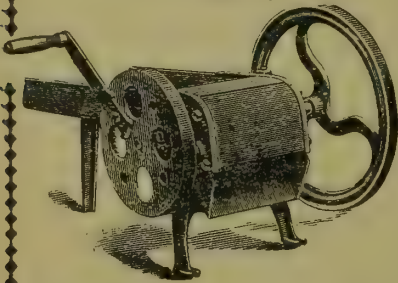
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Silver's Clover Cutter For Poultry



This machine will cut clover, alfalfa, straw, vegetable tops and similar material, green or dry, into $\frac{1}{2}$ inch lengths, which makes it especially adapted to cutting feed for poultry. It is all iron and steel, consequently very durable. Length over all, 24 inches. Size of feed box, 18 inches long by 10 inches wide at rear end, by 8 inches at throat. Feed rollers are full width of cutting surface. Has 8-inch, 4-bladed, solid center, spiral knife, with adjustable cutter-bar, like a lawn mower. Capacity is a bushel of cut clover in 10 minutes or less. It is intended to be mounted on a bench or box to make it right height for operator.

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Baldwin's White Leghorns

Fine youngsters at reasonable rates. Good older stock cheap to make room. Full description of stock and price list mailed free on application.

Frank E. Baldwin

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Poultry Show Dates

San Jose, Cal., Nov. 11-16, 1907.—Annual Exhibition Santa Clara Valley Poultry and Pet Stock Association. Charles R. Harker, secretary, San Jose, Cal.

Oakland, Cal., Dec. 2-8, 1907.—Fourth Annual Exhibition of the Alameda County Poultry Association. C. G. Hinds, secretary, Alameda, Cal.

Los Angeles, Cal., December 5-14, 1907.—The Nineteenth Annual Poultry and Pigeon Show of the Los Angeles County Poultry Association Corporation. Comparison judging W. L. Sly, Hollywood, president; C. D. Hubbard, secretary, San Fernando.

Fresno, Cal., Dec. 11-14, 1907.—Tenth Annual Exhibition Fresno Poultry, Pigeon and Pet Stock Association. George R. Andrews, secretary, San Diego, Cal.

San Diego, Cal., Dec. 17-21, 1907.—Sixth Annual Poultry and Pigeon Show of the San Diego County Poultry Association. George D. Badger, secretary, San Diego, Cal.

Los Angeles, at Chutes Park, Jan. 6-12, 1908.—Second Annual Exhibition Breeders' Association of Southern California. Dr. Winslow, president; H. A. Meserve, secretary. Birds will be received January 1st. Judged by score card and awards read before public is admitted Monday, January 6th.

BUYING EGGS BY WEIGHT.

There can be no doubt that if the were universally adopted it would have a more speedy and far reaching effect in the improvement of the poultry industry than any other reform that could be introduced. Practical poultry keepers know that they can produce eggs of very fine size and quality by giving due attention to the breeding, selection, care and management of poultry. It is worth while to do this when the result is an increased price for the eggs and it does not cost any more to produce large eggs than small ones.

Now to prove this to the ordinary farmer who, in his heart, has nearly a contempt for the proceeds of the poultry yard, I will give some figures showing the benefits of buying and selling eggs by weight. These figures have been given me by the managers of the poultry societies in Ireland, which has adopted this system. Of the eggs purchased by one society three years ago, 40 per cent weighed $13\frac{1}{2}$ pounds per 120; 40 per cent weighed 15 pounds per 120 and 20 per cent weighed 17 pounds per 120. There were no eggs capable of being graded as 18-pound eggs. At the present time, of the eggs purchased by this same society, 10 per cent weigh $13\frac{1}{2}$ pounds, 30 per cent weigh 15 pounds, 30 per cent weigh 16 pounds, 20 per cent weigh 17 pounds and 10 per cent weigh 18 pounds per 120. It must be regarded as an extraordinary improvement, consider-

ing the short period in which it has taken place.

Now in regard to the other society, where the time has been longer, the increase in the weight of the eggs is far greater and a few quotations will suffice to illustrate the benefits that accrue from the system of buying and selling eggs by weight. Four years ago 50 per cent weighed $13\frac{1}{2}$ pounds, 30 per cent weighed 15 pounds and 20 per cent weighed 17 pounds per 120. At the present time 30 per cent weigh 14 pounds, 30 per cent weigh 16 pounds, 20 per cent weigh 17 pounds and 20 per cent weigh 18 pounds per 120.

It may be noted that this society has eliminated the $13\frac{1}{2}$ -pound eggs. The smallest are now 14-pound eggs, and there are only 30 per cent of these, as compared with 50 per cent of $13\frac{1}{2}$ -pound eggs four years ago. The 15-pound selection has also dropped out and its place has been taken by the 16-pound eggs, while there are 20 per cent of a new selection, namely, the 18-pound eggs.

If this is not proof positive that the buying and selling of eggs by weight leads to the improvement of the poultry industry, I fail to see what it is.—Farmers' Review.

A PURE-BRED ARGUMENT.

Why is the pure bred fowl better than the mongrel? The reasons are many: For one, you can always depend on the pure bred for uniform growth. Take a mongrel hen and her chickens will vary. They never grow fast, and one or two in the bunch will be ready for market two months before the others. Not only that; the pure bred are uniform in looks after dressing and sell higher on this account for breeding and themselves always sell higher than the market price, too. Persons raising the pure breeds exclusively in this country must keep all their eggs from early spring until the hatching of the eggs; and now, since incubators are so useful and common, those who want eggs often order many weeks ahead to get all they need. Another reason is that the mongrel hen averages at the best about forty eggs per year. The pure bred laying breeds, with worse care given, will lay over a hundred eggs, and with moderate attention I have known them to lay very close to two hundred eggs per year.

What is needed is to bring our pure breeds up to the highest type of hardiness, utility and beauty, and then for the poultry farmer to use only fowls that are strictly pure in blood. Until then poultry raising will be more or less an uncertainty. When good blood is used, we see success in all branches of live stock. Blood is the foundation of success. In all the established businesses the best is what must be secured for foundation. Mongrel hens may answer some owners, but the best is the cheapest in the long run, and those who would prosper in the future poultry business must produce the best for breeding. As a rule, you can not buy a breeder's best birds—unless he raises them in large numbers and has more good birds than he needs for his own breeding pens—birds fully as good as he has selected for his own use. If he is an honest breeder, you can buy eggs for hatching from his best pens, and the chances are you can raise birds just as good as his best at a small cost. Start right by saving only the best eggs from the selected hens for incubation, the most prolific layers.—Rural Home.



Makes harness proof against heat and moisture. Gives a glossy black finish. Prevents rot, imparts pliability, strength and durability to leather. Saves bills and mishaps. Keeps a new harness looking new and makes an old harness look like new. Contains nothing rough to the skin and chafe. For axle troubles use

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Laying Pullets six and seven months above hens, at \$15.00 per dozen. Also I. H. and Drakes at \$9.00 per dozen.

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Breeder of White Leghorns, Black Muffs and Barred Plymouth Rocks. Eggs for setting, \$2 to \$5 per setting. Single birds and breeding pens a specialty.

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White Wyandottes Hubbard

Baby Chick, \$2.25 dozen. Eggs half price, 15, \$5 per 100. January pullets laying 4 weeks old. CANNON POULTRY COMPANY 2851 Morgan Avenue, Los Angeles, Cal.

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And Golden Sebright Bantams, prize winners. Stock and Eggs in season.

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SHADE'S RHODE ISLAND

The World's best layers.

J. W. Shade San Bernardino, Cal.

WOMEN AND POULTRY.

Now that so many ladies are turning up poultry keeping as a fad, the farmer's wife will have to look for laurels. With all the advantages seemingly on her side, the city poultry breeder often fails to set a good record for the number of birds kept as the city breeder. This is usually due to the fact that she does not know her limits. The city breeder knows that if she raises more chickens than she can comfortably care for in her own yard, she will hear from her neighbors. She has learned the limits of her poultry keeping, and stops at that. With milk and cream to see to, no time to do, and no fruit to gather in the garden to tend, the city fancier has more time for her chickens, cares for them better care, and when it comes to the poultry shows, the back yard fancier carries off a good share of prizes.

The country fancier often has too much dependence on the range. A hungry horde of chickens soon exhausts the ordinary range of food. We all know that the range is good, or at least feed to the growing stock. But when the chicken's crops at night when they come off the range. If they come at the call for supper it is because that feed is not needed, but when they are hungry give them something to eat. Every fowl on the range should go to bed with a full crop. Don't turn the valuable first hatched chickens out without shelter. Trees are all right if the fowls will use them. Anything is better than over-crowded coops. Fresh air, plenty of feed, and plenty of room with protection from rain, will produce the finest of farm poultry.—Washington Farmer.

Bees and Their Care

NEEDS OF BEEKEEPERS.

THE following extracts from a letter written this office by Ralph Benton, Assistant Entomologist of the State University, while written for publication has points of interest for beemen.

I have been looking over with pleasure the last issue, (Aug. 22nd) of the California Cultivator, just received by me. As a subscriber to the "Far Western Bee Keeper" the arrangement is acceptable to me, in view of the discontinuance of that publication. I was somewhat disappointed when after a long conference with Mr. Horn at Riverside, it was concluded the wisest plan was to discontinue, at least for the present, the publication in question. I am disappointed because I believe there is a place for good bee literature among the beekeepers of California. I am sure there are good Eastern publications, The American Bee Journal, Gleanings in Bee Culture, The Beekeepers' Review and others, but none of these journals cover adequately the things of local interest.

I was much impressed during my recent three-month's tour of the State, with the many needs of the average beekeeper. Foremost among these is the educational work. While we cannot reach in our institute work a large number of these needy people in the sphere there is necessarily reached. We must needs depend more on the printed page. We have one more bulletin underway at the Experimental Station and we are in hopes that these may be of some use. We believe, however, that there is nothing better than an up-to-date bi-weekly or weekly publication to reach the average beekeeper. The next best thing is a well conducted department in an agricultural or horticultural paper. I speak of these things to let you know our position in regard to the work you are doing.

There is no reason why this page of the Cultivator may not be the means of conveying much information and be an aid in extending this industry in this State. Ordinarily this department has appeared bi-weekly. Maybe the department will be that it shall appear more often. Beekeepers are just closing a rather disappointing season. Possibly at this time they may not be inclined to encourage extension, but I hope none too soon to talk over next season's campaign.

Make the Cultivator the platform on which to talk. It will reach thousands (12,000 copies are sent out each week) and if we put up an interesting talk and show the advancement of this industry, who can estimate the extent of the influence.

Some who now have no inclination toward beekeeping may become interested and become a strong support of the industry. It's a big aim, isn't it, let's talk of the industry.

Let's talk amongst ourselves, if there is any need, or information wanted, let's query and the Cultivator will get an answer if possible.

HOW TO MAKE AND WEAR THEM.

I doubt the wisdom of going among a large lot of bees without wearing a veil. In a very hot day it is decidedly uncomfortable to have a colored sort of feeling that a veil and I may not have my veil but I want it ready to pull

down at a moment's warning. To the beginner there's a sort of fascination about the idea of being able to say: "I never wear a veil," and even some of experience take pride in going without one when they might do better with one.

One objection to going without a veil has, perhaps, never presented itself to many. It is that the absence of a veil is hard on the bees. Before reading any further, stop and think whether you can give the reason why. Give it up? Well, I'll tell you. If you wear no veil, it's practically certain that you'll use a good deal more smoke than you otherwise would, and I don't believe bees enjoy having a lot of smoke blown into their eyes any more than you do.

Possible to Work Without.

I think I hear some one reply, "But I can work at bees without either veil or smoke." So can I; and I think it's a good way for the amateur who keeps bees for the fun of it, and has time to burn while playing with them. Indeed, I think if I should live to be an old man, with nothing else to do, I should thoroughly enjoy sitting at a hive by the hour, watching the bees at work, and manipulating their combs with such gentleness and deliberation that they would have no inclination to sting me, withdrawing from them if, on account of weather or for any other reason, they made any protest against being handled without smoke or veil. But for one who is working his bees for the money that's in it, and wants to slam through a certain amount of work in a day, whether the bees are kind or cross, it's too expensive business to move so gently that the bees think you're not moving at all.

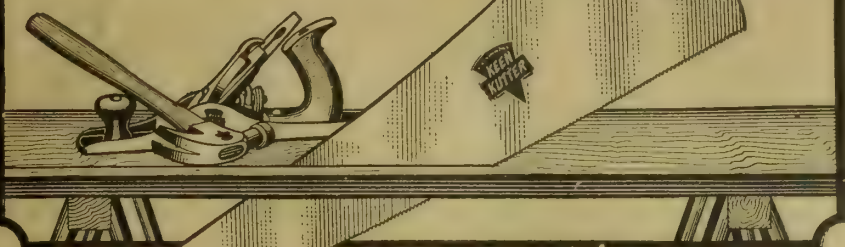
There may come a day when we have bees so gentle and so industrious that they will store more than any bees we now have, and at the same time need neither veil or smoke under the swiftest manipulation, but that will probably be some time after next week. For the present, barring amateurs, all beekeepers need veils, with the exception of the man in the city close to neighbors and he ought to be obliged to do without a veil—at least a good many of him.

How to Make.

Of all the veils I have tried, I like none better than the plain bag open at both ends. Get bobinet, which goes also under the name of cape net or lace net, and is about 21 inches wide. It must be black if you care to preserve your eyes, also if you care to see clearly. Soak in hot water to take out the starch. Cut a piece as long as, or a little longer, than the circumference of your hat rim. Sew the two ends together and make a hem at each end of your open bag, through which you will run a rubber cord. The upper cord will hug the hat at the place of the hat-band. For a permanent hat and veil, it is better, instead of the rubber cord at the top, to sew the veil to the hat at the outer edge of the brim and under it. It is also better to sew a piece of white material at the bottom to make the lower hem, as the black material crows the clothes.

Cross bees, when making an attack, fly in a horizontal line, so they do not often get under the veil, even if the rubber cord does not hold very close about the neck.—Gleanings in Bee Culture.

Home Jobs



There are a thousand little things to be done about the house and farm that you are called upon to do yourself if they are done at all. To do them rightly and easily you require good tools—better tools, indeed, than the carpenter, because he has the means of sharpening, setting, and adjusting, which you have not.

For the home, the shop, or the farm, there are no tools equal in any respect to

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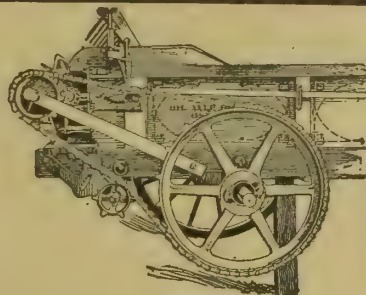
We tried all woods for the frame and have settled on second-growth white ash.

Look at that cut again—See the heavy iron brace from the beater end to the driving axle. It removes all strain from the end of the body and makes the cylinder run freely without binding.

See the big driving wheel and the chain—that's a steel-pin chain—the only kind that will work satisfactorily.

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Second—When we send the catalog we tell you who sells SUCCESS Spreaders in your locality. Go to that dealer and see one. Examine it thoroughly. Compare it with others.

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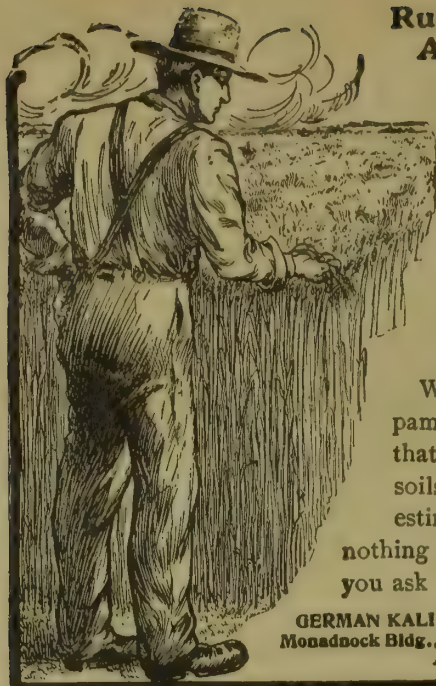
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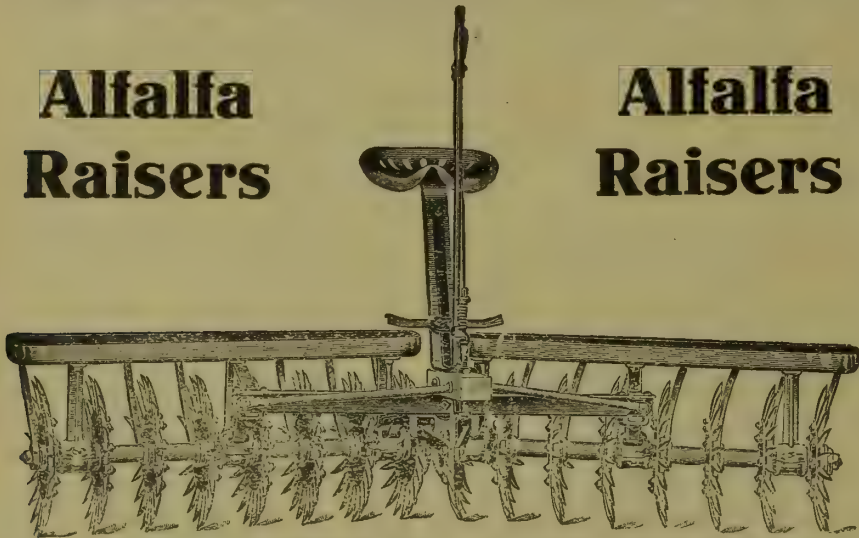
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Queries and Replies

Questions to be answered in this department should be received at this office a week before reply is expected. Write plainly on one side of the paper and full name and address. Unsigned communications receive no attention.—Ed

Hop Yards.

Please tell me where are the most extensive hop yards, and when does picking begin, and what price is paid?—R. M. B., Ramona.

There are no extensive hop yards within several hundred miles of you most of them being in the northern part of the State. We do not know the general price of picking, but note that at Ukiah the pickers who stay by the yard for the season are paid \$1 per hundred, while those who pick only through the flush season are paid 75 cents.

As to Budding.

In your issue of Aug. 22, is an article headed, "Budding." We want to learn more of pruning. Please give us the mail office of W. Paddock. We infer that the fruit on a limb, not from the introduced bud, must be inferior. How shall the pruner keep the tree free from limbs which have not been improved? Suppose the bud set into the north side of the tree. How is the pruner to learn which of the branches on the north side of tree is from the valuable bud? And when he has learned that, must he remove all branches which cannot be traced back to that planted bud?

If there are other folks as ignorant as we, an article on pruning budded trees and fruit trees in general, would be appreciated.—D. C. DeVin.

Mr. Paddock's address is Fort Collins, Colorado. Either visit a nurseryman or secure the assistance of a practical budder and pruner, until the points of which you ask, may be more perfectly understood. There is no mistaking the "valuable" bud. The keeping the tree free from the undesirable shoots which will come out, is by rubbing off with the thumb as they start. Write to A. C. True, Director Experiment Station Department of Agriculture, Washington, D. C., for Bulletin 186, Plant Production by Dick Crosby.

Peach on 'Cot Root.

May I ask: Do nurserymen ever bud peaches on apricot stocks and if not, why? What time is best to bud for dormant buds?—E. E. W.

Peaches have been budded on apricot roots, but the union is not perfect and in later years the orchard may be laid low by heavy wind. Peach, almond or Myrobalan plum roots are usually used. Peach, if the orchard is to be planted in warm loose soil and Myrobalan if in cool, moist, heavy soils.

Time for placing dormant buds is while sap is yet flowing, depending on care of conditions.

Sequel of Distemper.

About two months ago I had two three-year-old mares, which had colts. One colt was four months old and one about two months when they had distemper. Had it very hard. Broke badly and discharged freely from under their jaws. Were about two weeks getting over that. Lost flesh very fast; colts had both bad distemper and ran with mares. Both were on good alfalfa pastures and had good shade and water. None of my other horses got the disease. In about three weeks one of the mares commenced to swell under her front legs, the swelling kept extending back towards her hind legs which also commenced to swell. The swelling was hard, but formed no puss. A gentleman said that we should put in seton or rowel, which we did. They ran a yellowish, oily liquid. In about three days her head commenced to swell as did her

front legs. Her head swelled twice its natural size so she hardly breathe through her mouth. Her eye was swelled closed. She died about a week from the time she commenced to swell. She died two days ago; the other mare commenced to swell the very same way day after yesterday; I am giving her a quart of raw linseed oil; every other gallon of bran mash with about one-half quart of barley with it. She has a good appetite. Her kidneys seem to be all right. Her droppings are a little burnt, but very pronounced. Her coat not dry. Skin somewhat tight.—Yuma.

This is a case of Purpura Hemorrhagica. An eruptive non-contagious fever of the intermittent type usually a sequel of some other disease such as influenza, strangles, distemper, etc.

Treatment: Keep the animal comfortable, give chlorate of potash half ounce dose 3 times a day. If constipated give mashes and a quart of raw linseed oil with one or two drops of turpentine occasionally. If it is bad use carbolic acid in water spray or use sheep dip and water. W. J. Oliver, V. S.

THE IMPLEMENT SITUATION

Dealers in agricultural implements, farm wagons, manure spreaders and other kindred lines will soon begin to inform their customers of an advance in price. In fact, many manufacturers have already made an advance and the consumer may be prepared for it as it is inevitable.

Implement manufacturers have been chased for their work over 100 per cent of iron and steel bars and pipes. The price paid for next year's deliveries is about 10 per cent higher than the contracts that were made a year ago. Pig iron, cold rolled iron, bolts, nuts, washers, screws, in fact, almost every item going into the manufacture of the implements have advanced from 10 to 15 per cent for 1908 deliveries. Lumber, particularly oak and hickory, have advanced steadily in price for the past few years. The average advance for 1908 will not be far from \$100,000 thousand feet. Wagon rims and spokes have advanced for 1908 10 to 20 per cent.

Manufacturers in general feel that they are entitled to better prices. In fact, it is impossible for the manufacturers to continue selling their product at anything like the old prices. Implements have not kept pace with the advance in raw material. High prices of raw material and low prices that implements have sold for have put the manufacturer where he has not enjoyed any of the general prosperity of the year. The raw material man and the consumer have reaped the full benefit.

The farmer has enjoyed the benefit. The figure he has ever secured for his stock in trade. In these times of prosperity when all of the farm products are selling at high prices it is quite necessary that the farmer should have up to date machinery sold at minimum and raise the large crop possible. The farmer who has implemented in the latter part of 1906 and during 1907 at an advance of 10 to 15 per cent may rest assured that the advance is legitimate.

There appears to be no prospects of a slump in the market on raw materials. The situation is rather peculiar along this line. The great protection has made it necessary for the manufacturer to buy his raw material six months to a year in advance, so that he may be sure to have it at the time they are required. Therefore, the manufacturer has been obliged to place his orders for 1908 in advance, and having bought it has been in the matter in position where it looks as if the advance in price must be for at least eighteen months, and when considering everything it is nothing but justice that the farmer should pay the slight advance which is asked to pay as the prices of implements are only slightly above the ones asked when corn was selling at 25 to 30 cents per bushel.

GASOLINE ON THE FARM.

As the farmer figures up at the end of the year he will find that his expenses have been high; that hired man's wages and the day help have taken a large chunk out of his profits, as a writer in The Ranch.

Get a Little.

It behooves the farmer to look around and figure out some way so that his income will be larger and his land kept in a more fertile condition. This means to keep more stock and sell more crops from the farm in the shape of eggs, poultry, pork, nut and beef. It has been demonstrated beyond a doubt that much more good is gotten out of grain by plowing it ground, but heretofore it has been expensive to haul the grain two to six miles, pay a big toll, and waste valuable time. This has kept many farmers from feeding ground feed. The advent of the practical, portable gasoline engine is going to be a big help to the farmer. If he applies the same amount of money that he pays his hired man in one season toward buying a three or four horsepower gasoline engine, buzz saw, grinder, he would find himself in considerably better shape to face the farm labor question and besides save money in the first year over the cost of an outfit that will last him a number of years.

Always Ready.

The engine is always ready. For instance, separate your cream with a separator, and enough gain can be made out of the milk by skimming the way and feeding to the calves and pigs to pay for all the gasoline. Then hitch it to your pump and it pumps enough water to last all day while you are eating your breakfast. Then take your engine to the orchard and saw enough wood in a few hours to last you for a month. Then take your power to the granary, and your feed, cut the fodder, then to the house and churn, and then run the washing machines. Thus it will do the work that he little tanks of now and he will find it an advantage on every turn. There are other uses still unmentioned, such as cleaning seed wheat and unloading. By using a line shaft and a belt drum with a friction clutch, the engine does the work very satisfactorily and the team and man that would otherwise be at work on the farm can be used elsewhere. The engine is controlled by the man on the load.

Original Price Not All.

As to the cost, it is right here where many farmers make their greatest mistake. They buy the cheap engine. Buying an engine is like buying a horse. It makes no differ-

Implements for the Ranch

We can supply everything that is needed in Ranch Implements. If you need a wagon we have the Shuttle—the "king" of all wagons. We also have the Burg, the Harrison and the Winona Wagons—all good.

If you want a Fertilizer Drill, we can supply you with the BUCKEYE, built especially to meet California conditions—and it does it. No better drill is made—we have never seen one as good.

We have the Great Western Endless Apron Manure Spreaders. Every ranch should have one—saves time—saves money—increases crops.

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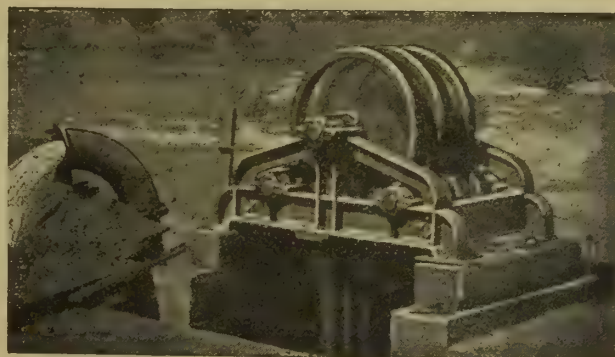
once whether you pay \$50 or \$200 for your horse, you generally get value received for your money. And so it is with the engine; if you get a \$90 engine you will get one worth \$90 and no more, while if you pay \$150 for one you will get a machine worth that amount of money. But don't expect the \$90 one to do the work of the \$150 one.

BETTER BE A FARMER.

The farmer boy that leaves his home and goes out in a city to work indefinitely, that he may go to the "Chutes and the vaudeville" sacrifices his life's opportunity for a mess of pottage. There is no advancement for him. He will virtually go backwards, and be exposed to thousands of temptations that the independent agriculturist never knows, says the Colusa Sun. From this country at one time there was a great disposition to go to a city and drive a street car, make a little cash and go sight-seeing. It was soon proven to him that the man who owned his own acre and cultivated it, lived independently, increased his substance and went more sight-seeing once a year than the city fellow, living in the tenement house ever dreamed of. And then he missed being bossed and the following of a leadership to which he must pay a large amount of his salary or wages, or be turned out of his organization "as being a scab or a coward" or some other dirty nickname, and denied the privilege of working where he pleases and for what he pleases, and when he pleases. Some men want to work long hours, some short hours, and some do not want to work at all. So all the time is spent in getting together and talking about it and then getting apart and disorganizing all that small talk. Better stay at home, better be honest and happy than to live in the tricksters' atmosphere. Better be a farmer and win happiness and competency.

A town of Imperial shipped 312 cars of cantaloupes this season.

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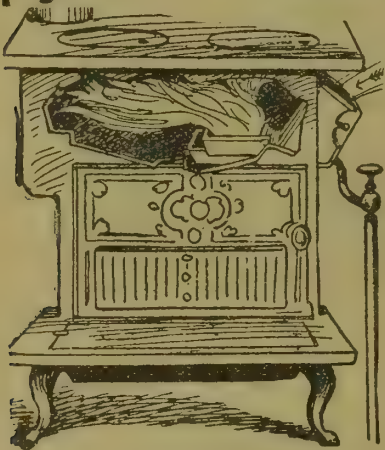
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People who are sick with dyspepsia, headache and biliousness, having yellow complexion and pimples, do not want to experiment, but want a medicine that has had the test of time. We have cured these diseases for 25 years with DR. TUTTLE'S IMPROVED LIVER PILLS. They drive out the cause of sickness, making the complexion clear and healthy. 25cts. a box at druggists, or by mail. Write Dr. Bosanko Co., Philadelphia, Pa. Sample Free.

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TUTTLE'S ELIXIR.

THE HOME OF "ROYAL DERBY"
Santa Ana, Cal., June 3rd, 1907.
DR. S. A. TUTTLE.

Dear Sir: Having used your Elixir for the past 15 years. I can truly say it will do all you claim for it, it is a sure cure for curbs, splints, sprained tendons, big knees, thrush. I consider it the most valuable remedy ever put on the market and would not be without it, if it cost \$5 per bottle. Family Elixir is as good in the home as Veterinary in the stable.

Yours truly,
H. N. Sylvester.

Household Department

A MIDDLE-AGED LOVE STORY.

With every tick of the clock, my dear,

The days go singing by,
And the skies are blue and our hearts
are true,
And there's love in your laughing
eye.

And never you care if the silver hair
Steals into each golden lock,
For your heart must know you dearer
grow

With every tick of the clock.

With every tick of the clock, my dear,

We drift from the shores of youth,
And we swifter glide on the broader
tide

Of the grander sea of truth.
The flight of time but smooths to
rhyme

Life's every grief and shock,
And we nearer grow in love's glad
glow

With every tick of the clock.

Nixon Waterman.

LOVE—FOR A DAY.

MISS DALLAS, searching for shells, for which the little sandy cove was famous, rounded a corner sharply and came into collision with a man who was apparently engaged in the same search.

It is almost impossible to be dignified when you nearly have knocked a man's cap off his head, and Miss Dallas did the only sensible thing she could do under the circumstances—she laughed.

"I am so sorry," she gasped; "but, you see—"

"We're in the same boat," he said, with a humorous glance. "I assure you it doesn't matter in the least. As a matter of fact, I ought to have looked where I was going."

"So ought I."

"If you are going on," he said, "let me warn you not to go too far past the next point. That is a dangerous cove, and people have been cut off by the tide, which races round that corner, before now."

"I'll be careful," she said; "thank you for warning me."

She bowed, he raised his cap, and after watching her light form disappear round a bend in the rocks he went back to his shell-searching.

He got up presently and looked round the cove. The girl had vanished, and, with a sudden thrill of anxiety for her safety, he saw that the white-crested waves were already dashing their spray to the foot of the point round which she had apparently gone. In ten minutes the place would be deep in foaming water. He set off at a run, shouting as he went, and at last she heard his voice and wheeled around.

"You were mad to go so far!" he gasped. "Do you know we shall only just be able to get round that point? Hurry—run, as you've never run before."

He seized her hand without more ado and they raced back over the golden sand; but on reaching the point they stopped short and looked at each other. A mass of green water was heaving round the rock, too deep to wade through, and growing each moment more turbulent as the great waves, driven before the coming storm, came rolling into the cove.

"It's no go, he said; "we can't do it. The only thing to be done is to find some place beyond high water mark—and wait for the tide to fall or for the passing of a stray boat. If

—there is such a place as a spot above high water mark. I fancy—yes, there's a cave half way along. Do you see the cave? It's fairly high up, and with any luck we shall be safe there, unless—"

He did not finish his sentence, but helped her up the steep, rocky ascent to the cave, which, though small, was fairly dry. He looked with some concern at the signs of the visiting tide, however, in the fresh seaweed and a pool or two in the recesses of the cavern.

And then they began to wait, while outside the waves raced each other up the sandy cove, and every moment the water became more turbulent and deeper against the rocks.

"I—I can't ask you to forgive me for having brought you into this by my folly," said Miss Dallas presently. The man was sitting on a boulder looking anxiously at the rising water on the cove. But he turned and looked at her with a smile, which faded as his eyes met the trouble in hers.

"Then don't try," he said, bluntly; "I'd rather you didn't. If I'd had any sense at all, I'd told you not to venture into the cove, but I didn't realize the tide was running so fast. Are you cold?"

"No * * * Do you think the tide comes as high as this?"

"I'm afraid it does."

"Oh!" The cry was one of pain, rather faint, and, looking at the girl, he saw she had grown rather white. He got up and sat nearer to her, and put his hand on hers.

She told him how she had run down to the west country seaside village just for a week's change and rest, and how fond she was of the tiny place, and as she talked he watched her, noting her lovely eyes, her sweet mouth and the curling hair that grew so prettily round her little head. She was so young, too—too young to die like a rat in a trap. He set his teeth hard at the thought. He wondered suddenly whether she belonged to anyone. * * * He glanced at her slender hands; they were both bare of rings, and instinctively he drew her closer, feeling a shiver run through her as a draught of air was perceptibly colder.

"Are you afraid?" she asked presently, like a child. "Are you sorry about leaving anyone you love—behind?"

"I leave nobody I love," he said a little sadly—"only an uncle. There is no one else. And you?"

"I leave only an aunt," she said; "no one else in particular. I was going to be married, I believe."

Something chilled him—perhaps the wind.

"And you—loved him?" he asked gently.

Miss Dallas actually laughed.

"I hated the idea," she confessed. "I don't think other folk ought to settle those sort of things for one, do you?"

"No," he said fervently with, as it were, a load lifted from his heart. "One should follow one's heart—if it shows one the way."

"It doesn't always."

"Not always—but sometimes it does in a queer sort of fashion. Just when one least expects it. * * * Ah!"

There was ecstasy in his voice, and in the eyes she raised to his in won-

der. Their acquaintance was one of hours only—no more—and yet each other they were all the world. Then a great wave rolled in, swirling about them with a horrible sucking force that nearly drew her from his grasp, and receded with a muffled roar. He set his teeth as he gathered her closer to him; the end was upon them—the end. He prayed it might be short and merciful, and—a sound smote his ears. * * * A splash of oars. With fast beating heart he listened. * * * There it was—nearer. He shouted loudly * * * the cavern gave back a mocking echo. * * * He shouted again, and—a voice answered. The splash of oars came nearer and a boat came into the wide mouth of the cavern. He looked over the girl.

"Dear * * * we are saved!" he cried hoarsely; but she heard him not—a merciful unconsciousness had descended upon her.

* * * * *

Miss Dallas came to, to find herself in a boat supported by her companion's arm; they were swiftly near the shore, and she learned that the coast guard, who had remarked her walking in the sandy cove, and fearing disaster, such as had fallen on others, had come in search of them—just in the nick of time. She began to be taken to the hotel in which she was staying, and there he left her with chivalrous kindness, and promised to come and see her tomorrow. Tomorrow. The word struck a chill to her heart, for had she promised her people before they died that she would, at any rate, favorably consider the offer which James Gaunt was to make to her within the next few months? And her promise to the dead was sacred; if Jim Gaunt chose to ask her to be his wife, she supposed she would say "Yes."

The thought gave her courage the next day when she was told that the gentleman wished to see her. She came into the room where she was standing looking out on the angry sea, for a storm had sprung up in the night, and the bay was a mass of furious breakers; he put his hands on her shoulders. She liked the man—the fullness of his manner and his smile thrilled her. But she steadily put the thought of her promise and Jim Gaunt before her, and wrenched herself free.

"I—I—am not free," she said last, very low, and did not see the tender smile in his eyes, "and—how can you be so cruel! Can't leave me and forget—forget even my name—which you don't know? I forgot that we—we—"

"Were never introduced? Then let us remedy that at once * * * let us talk matters over afterward. I forgot your name when I called to you how you were early this morning. And mine is—Jim Gaunt. Will you send me away now, sweetheart?"

Well, she didn't want to resist any longer, and it was so easy to give way and to let him take her in his arms and whisper all sorts of ridiculous things to her, and as he loved him always—why, that was the easiest thing of all to do—she did it!

—M. A.

A well-to-do farmer, who had sent his son to Denver to begin life as a clerk in one of the big stores, went to the manager asking how the boy was getting along and where he slept at nights. The manager replied: "He sleeps in the store in the daytime, but don't know where he sleeps at night."

RECIPES.

Nut Cake.

cupful of sugar half a cupful of small lump of butter, two one and a half cupfuls of flour, a teaspoonful of soda; dissolve water one teaspoonful of cream. Bake in jelly tins.

Nut Cream.

a cupful of sugar, quarter of a of flour, one egg. Mix to and turn into half a pint of previously heated in a double add two large spoonfuls of out and stir until thick. Make for the top and sprinkle with freshly grated cocoanut.

Cake.

make coffee fruit cake, beat pound of butter to a cream; ne cupful of brown sugar. Dis- a teaspoonful of baking powder o tablespoonfuls of water; add half a pint of New Orleans mo- add this to butter and sugar; teaspoonful of allspice, one egg beaten, a tablespoonful of cinna- and one grated nutmeg. Mix a of a pound of shredded citron, pounds of seedless raisins and quarters of a pound of cleaned ants. Measure three cupfuls of flour; take sufficient from it to the fruit thoroughly. Add half of warm, strong coffee to the mixture; then add to the flour; until smooth; add the fruit, pour well greased cake pans and bake in a moderate oven.

Straws.

and cut into strips one-eight inch in depth and width. Have a bowlful of cold salted water, which has been added the juice of all lemon. Put the strips in this and leave for fifteen minutes cool place. Dry thoroughly and boiling fat. Send to the table dish.

to and Cheese Salad.

a slice of tomato on a leaf of and cover exactly with a very round of American cheese; with mayonnaise, add another of tomato and put a spoonful of naise on top.

Frappe.

is quickly made. Dissolve a of maple sugar in a quart of water and strain. Put in the can and when cold turn the until it becomes stiff; add one- cup of any liqueur and turn after removing dasher whip perforated spoon until smooth, set aside for an hour. This rapidly so should be used as as ripe.

Custard Pie.

following sent from a sub- r, a warm friend of the Cultiva- ks good: a medium-sized peaches that are red around the seed and halve then line a good-sized pie-tin a good bottom crust, do not roll in, rub flour over it and lay in peaches with red side up, one layer, over the crust, close to- r, then, beat one egg to a froth, pinch of salt, one pint of sweet one tablespoon flour stirred h in the milk, three tablespoons pour over the peaches and bake oven. AUNT LIZZIE.

HOMELY HINTS.

en laying matting, place several cesses of newspaper under it, catch the dust which sieves gh. After a thorough sweep- , refresh matting by going over it a cloth dampened with ammonia t.

You ought to clean all the drain pipes connected with the house at least once a week, by flushing them with hot sal soda water, or lye solu- tion.

Never attempt to wash windows when the sun is shining on them.

Fruit and ink stains, as well as mildew spots can be removed from white goods by soaking them in sour milk. Silver can be cleansed in the same way.

People drink too little water. Suf- ficient should be taken each day to so flush the system as to carry off waste and poisonous matter from the blood.

The flat, insipid taste of hot water which is so objectionable to many persons, can be removed by aerating it. Pour it from one cup to another.

Water bottles and flower vases that have become stained from use are easily cleaned by the use of potato parings with water enough to cover the stains. Leave in over night. A cleaning pad may be made by cutting a groove around a long stick near one end and tying a bit of cloth securely to it. The cloth should be doubled up so that it makes a round, ball-like covering for the end. With this, ugly stains may be reached that would otherwise be inaccessible.

TRAGIC TEASING.

A young woman drowned herself near Wilmington, Del., the other day because she could not endure the playful taunts of her associates about a trivial personal matter. She had begged them to stop, but they per- sisted. She then threatened to end her life if the persecution continued, and still they teased her. Then she carried her threat into execution, and now the young people who engaged in their pastime of annoyance are over- whelmed with regret.

This tragedy carries an impressive lesson, applicable to great numbers of people who do not realize the sensi- tiveness of others. Of all subtle cru- elties none is more abominating than the persistent reference to a subject that is painful to another. Yet this form of torment is indulged in con- stantly. Parents tease their children about things that may seem trifling to them, but are serious and impor- tant to the little folks. They cause great suffering of mind by thus in- cessantly "poking fun" at the young- sters whom they are supposed to cherish and guard from pain. The ex- pression is often heard: "Oh, it is good for her. She is too sensitive. She will have to get used to being criticised and teased while she is young." Yet this very treatment is calculated to render the child more keenly susceptible to mental torture than before. It may not be doubted that many a child's nature is warped by injudicious jocularly on the part of its elders.—Washington Star.

PLEASED.

Keep track of the little figures after your name on wrapper or on cover. On it you have a weekly statement of the condition of your subscription payments. If it says 1-08 it means that you are paid to Jan. 1 next. It affords satisfaction to know the con- dition and aids in preventing mis- takes. A Berkeley subscriber keeps tab on the little figures and writes as follows:

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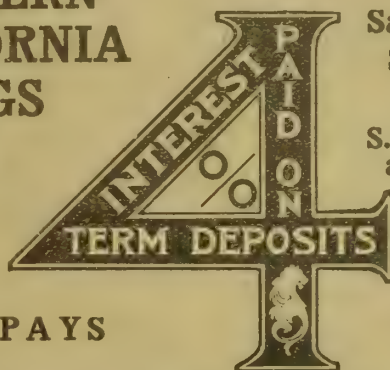
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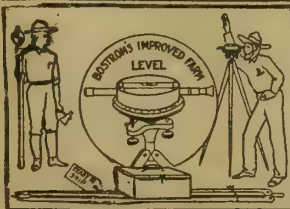
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The Produce Markets

Los Angeles

Markets

LOS ANGELES, Sept. 4, 1907.

Butter.

"The butter trust has advanced another 2 1/2 cents," is the claim on the market. Whether its trust or not the price is up one more notch since last issue. This is claimed more in the interest of holders of Eastern, of which there is a large supply stock in storage.

Creamery extra per roll... 67 1/2
Creamery first... 60
Dairy... 55
Cooking... 47 1/2

Cheese.

Cal. Young America, per lb... 19
Hand... 20
California Anchor... 17
Cal 3-lb. hand... 20
Northern fresh... 16 1/2
Eastern... 18@19
Domestic Swiss... 23
Imported Swiss... 30 1/2
Tulare flats... 17

Eggs and Poultry.

The egg market is very firm and receipts of good stock light. No advance is predicted, but conditions are favorable.

The prices given are those of the commission man to the retailer.

Eggs local candled... 32@33
Eggs case count... 30@31
Fresh Eastern... 28
Eastern storage... 23@25

Hens have advanced and are in light receipt. Young stock quoted as last week. Market firm.

The following are average prices which dealers pay to producers for live weight.

Hens per lb... 15
Young roosters per lb... 14
Fryers... 15
Broilers per lb... 16
Old Roosters... 8
Turkeys... 17
Geese... 12
Ducks... 12
Squabs per doz... 1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 lbs... 7 1/2@7 3/4
Prime steers... 4 1/2@4 3/4
Heifers... 3 1/2@4
Calves per lb... 4
Sheep, ewes, per head... 4.75@5.25
Lambs, per head... 4.00@4.50
Wethers... 5.50

Potatoes.

Potatoes have declined. Fancy Highlands were offered in a jobbing way this morning at 10 cents per hundred less than a week ago, which brings the selling prices to the trade down to \$2.00 per hundred flat. Other grades quoted as last week.

Highlands... 2.00
Early Rose... 2.00
White... 1.90@2.00
Local Burbanks... 1.85
Salinas... 2.30
Sweet potatoes per lb... 3 1/2

Onions.

Silverskins per ctn... 2.50
Australians... 2.00@2.25
Yellow Danvers... 2.40
Garlic... 8

Vegetables.

Beets per doz... 30@50
Bell peppers green lb... 5@7
Beans wax... 75
Beans Limas per sack... 75
Beans green... 1 1/2@2
Cabbage sack... 35@70
Celery per doz... 40
Chili peppers green box... 75
Cucumbers per 5-lb box... 15@25
Corn per box... 40@50
Cauliflower... 1.25
Carrots per doz... 30@40
Egg plant per lb... 3@5
Green onions doz bunches... 15@30
Lettuce per crate... 40@75
Mushrooms per lb... 1.00
Pie Pumpkins... 1 1/2
Peas sugar per lb... 2 1/2@3 1/2
Okra, per lb... 20
Rhubarb per box... 50
Radishes per doz... 10@20
Spinach per doz... 10@15
Summer squash crate... 15
Turnips doz bunches... 35@40
Tomatoes per box... 25@35
Water Cress per hundred... 35

Citrus Fruits.

Valencias... 1.50@2.75
Seedlings... 1.25@1.50
Grapefruit Seedless... 2.00@2.50
Grapefruit Seedlings... 1.25@1.35
Lemons, fancy... 2.00

Lemons, choice... 1.25@1.50
Tangerines, halves... 1.50@1.75

Fresh Fruits.

Supply of fruit is good and prices fair, though the tone of the market rather weak.

Apples Red Astrachans box... 1.00@1.25
Bellevue... 1.75
White Astrachans... 2.50
Peaches... 1.75@2.00
Gravenstein... 1.50
Crab apples... 1.00
Blackberries... 10
Cantaloupes crates... 2.00
Casaba per crate... 1.50
Figs black per lb... 4@5
Figs white... 4@5
Grapes per 4 bskt crate... 1.30@2.25
Huckleberries lb... 11
Logans... 7@8
Nectarines... 2.00@2.25
Pears... 2.25
Peaches per box... 80@1.25
Plums Simonas... 1.15
Plums Tragedy... 1.25
Pomegranates box... 1.00
Raspberries... 12
Strawberries... 3@5
Watermelons per 100... 85@1.00

Dried Fruits.

The dried fruit market is continuing to improve and apparently will soon be in a normal condition. Quotations are same as last week.

Evap. apples fy per lb... 8 1/2@11
Apricots... 19@21
Peaches... 11@13
Pears... 12@13
Nectarines... 12@14
Prunes... 4@5 1/2
Plums... 11 1/2@12 1/2

Beans, Dried

Beans are showing more life and are being bought at slightly advanced prices.

Limas per ctn... 4.75@5.00
Pink No. 1... 3.25
Lady Washington... 3.25
Small White... 3.25@3.40
Black Eyes... 5.50@6.00
Garvanzas... 5.75@6.00
Lentils... 12 1/2@15

Honey

The prices we give are those at which the jobber sells to the grocer in small lots. The producer should take from this one cent a pound commission and freight to Los Angeles, and there will remain the net returns to him.

Extracted white... 6@8
Light Amber... 5@6
Comb, water white, 1-lb. fms... 12@15
Light amber... 6@11@13

Nuts.

Nuts are looking up somewhat and interest in the coming crop manifested. Orange county reports a slightly increased output of walnuts over former expectations. Prices are not yet made on the coming crop.

Almonds per lb... 19@25
Peanuts, Virginia... 9
Peanuts California... 6@7
Walnuts, No. 1 S. S... 14@15

Hay.

Barley No. 1... 14.00@15.00
Barley No. 2... 12.00@13.00
Alfalfa Northern per ton... 13@15
Alfalfa new local... 15.00@16.00
Plain oat No. 1 new... 12@13
Wheat No. 1... 15

Grain.

Purchasing prices f. o. b., Los Angeles are:
Wheat new per cwt... 1.70
Wheat, new, per cwt... 1.70@1.75
Wheat, Sonora... 1.52 1/2@1.57 1/2
Barley... 1.17 1/2@1.22 1/2
Corn Eastern sacked... 1.55

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn... 1.65
Shorts... 1.45
Bran... 1.30
Egyptian corn... 1.65
Oil cake meal... 2.50
Rolled Barley... 1.40
Rolled barley per ton... 25.00
Feed meal... 1.70
Kaffir Corn... 1.65

Farm-made manures are the most valuable in improving the physical condition of the soil. Commercial fertilizers are apt to make soil heavy, while the barn-yard article lightens up the soil and sets other factors to work.

Don't be afraid if the sorghum makes a slow growth at first. It grows very slowly for the first month, and for this reason the seed bed should be as free of weeds as possible, before the sorghum seed is put into the ground.

San Francisco Markets

SAN FRANCISCO, Sept. 3rd, 1907.

Butter.

Butter has not held its own during the past week and is now quoted lower.

California extras per lb... 20
California firsts... 25 1/2
California seconds... 25 1/2
California thirds... 24
Packing stock... 22 1/2@23

Cheese.

California Young American fy... 17 1/2
California flats fy... 15
Eastern fancy... 18 1/2
Oregon fancy... 15 1/2

Eggs and Poultry.

Eggs are still advancing. In fact, present quotations are so high that buying is much lighter.

Fresh ranch eggs... 36
Eggs first per doz... 29
Eggs seconds per doz... 20
Eggs thirds... 19
Eastern, selected... 19 1/2

Hens per doz... 4.50@5.50
Hens large... 5.00@6.50
Young roosters... 7.50@8.50
Old Roosters... 4.00@4.50
Fryers per doz... 5.00@6.00
Broilers per doz... 3.50@4.50
Ducks young... 3.50@4.50
Geese per pair... 1.75@2.00
Turkeys per lb... 17@24
Pigeons... 1.50@2.00

Live Stock.

Steers No. 1... 7 1/2@8
No. 1 cows and heifers... 6 1/2@7
Hogs 80 to 200 lbs... 7 1/2
Hogs 200 to 300 lbs... 7 1/2
Calves, per lb... 5
Lambs, yearlings... 6@6 1/2
Wethers, No. 1... 6 1/2
Ewes, No. 1... 6

Potatoes

River whites... 60@80
Early Rose... 1.00@1.10
Sweets... 2@3

Vegetables.

Asparagus... 5@7
Cucumbers per box... 35@50
Corn per sack... 1.25@1.75
Chili peppers per box... 25@50
Bell peppers per box... 50@65
Egg plant per box... 25@1.00
Green peas per lb... 1 1/2@2 1/2
Squash per box... 25@55
Peppers Green Bell per box... 1.25
Rhubarb per box... 75@90
Tomatoes California... 50@75
String beans... 2@3
Wax beans... 7@8
Garlic... 2@3 1/2

Onions.

Onions new reds... 2.25@2.50
Onions Br Australia per ctn... 2.25
Onions new yellow... 2.50@2.65

Citrus Fruits.

Valencias... 2.00@4.00
Seedlings... 1.25@1.75
Grapefruit, seedless... 1.75@2.00
Limes... 4.50@5.00

Fresh Fruits.

The market for fresh fruits is rather quiet, the demand being limited to comparatively few varieties. The weather is rather unfavorable and buyers' wants are kept within very reasonable bounds. Prices show very few changes and in some lines sellers expressed a willingness to shade their asking figures in an endeavor to clean up stock.

Apples Red Astrachans... 50@1.00
Apples Gravenstein... 1.00@1.50
Apples small stock... 35@71
Crab Apples... 75@1.25
Blackberries per chest... 3.00@4.50
Figs one layer... 50@1.00
Figs two layers... 1.00@1.50
Grapes per crate... 50@90
Logans per chest... 8.00@10.00
Melons per crate... 60@75
Plums per box... 40@75
Peaches per lb... 5
Bartlett... 75@1.65
Raspberries per chest... 10.00@12.00
Strawberries per chest... 8.00@10.00
Watermelons per doz... 1.00@2.25

Dried Fruits.

Apples (evap.)... 6 1/2@7 1/2
Apricots per lb new... 20@22
Figs white... 3 1/2@4 1/2
Prunes 4 sizes... 4@5 1/2
Peaches... 11@17
Pears... 5 1/2@11

Beans, Dried

Pink... 2.65@2.71
Small white... 2.85@3.01
Black eyes... 4.25@4.81
Red Kidneys... 3.30@3.51
Bayo... 3.25@3.31

Hops.

Hops, new, future delivery, per lb	9@11
Hops, old, fancy	9½@10
Hops, choice	7@9
Hops, common	5@6

Nuts.

Almonds, new	17½@18
Peanuts, California	5½@6½
Walnuts	15@16

Honey

Clear white comb	16@17
Amber	13@16
Extracted	5½@7½
Bees wax No. 1 per lb	26@28

Hay.

The weekly trade circular of Scott & Magner, descriptive of the hay market, is as follows:

Arrivals of hay for the past six days have been 5600 tons, which is just about the average of what has been arriving for two weeks previous. The railroad situation is most unfortunate. Hehe we are at the first of September with an immense quantity of hay at various railroad points where there is no storage, and the railroad unable to furnish cars to transport this hay to market. It looks certain that much hay will be caught by the first rains and badly damaged. Every effort is being made to press the railroad company to furnish cars all over the system, where hay is awaiting shipment. The records show comparatively light arrivals here in San Francisco over the southern Pacific and Santa Fé roads. It does not look as though we could expect anything better in service from the railroads, than we have had of late. This transportation condition is the key to the present situation.

Demand for hay during the month of August has been comparatively less than it has been for several years. Last year at this time there were not any teams enough to handle the business. At this time there are many teams idle, showing that the consumption here has decreased considerably.

The market on choice hay, of which there has been comparatively little coming in, has remained firm, but the medium classes of hay are drooping, and in many instances are being sold at lesser figures than during last week. Poor quality of hay is in very light demand, as the trade generally requires the better qualities.

The market on alfalfa hay is practically unchanged. Arrivals have been moderate and the demand rather light.

There is little more straw arriving than heretofore. The demand is light, though the market remains steady.

Alfalfa local	11.00@13.00
Alfalfa oat	15.00@16.00
Wild oat	10.00@13.50
Wheat No. 1 new	19.00@20.00

Grain.

Regarding the grain situation the Chronicle says:

As far as stability of prices is concerned the local grain market is in excellent condition. The choice grades are very firmly sustained and holders are not offering very freely, owing to belief that still better figures may be obtained a little later in the season. The volume of transactions continues rather small and as has been the case for several weeks the demand is largely confined to medium-class stock. The local speculative situation is dull and devoid of interest.

Wheat No. 1	1.52½@1.55
Barley No. 1	1.27@1.30
Orn small yellow	1.65@1.67½
Orn large yellow	1.50@1.55
Oats white	1.45@1.52½
Oats red	1.50@1.75

Feed Stuff.

Wheat per ton	19.50@22.50
Straw per bale	50@90
Feed cornmeal per ton	33.50@35.50
Cracked corn per ton	34.00@36.00
Alfalfa meal per ton	40.00@41.50
Coconut cake, per ton	25.00@26.00
Hidlings	27.50@30.00

Citrus Market

LOS ANGELES, Sept. 3, 1907.—The supply of oranges is becoming reduced, but that but little interest remains as citrus markets. Probably but little over 150 cars now remain in the state and these are being rapidly forwarded. The best of prices prevail. Lemon shipments are very light at the quality is good and good returns are made the growers.

Citrus Shipments.

Shipments of citrus fruits for season 1907 cars of which 3223 were lemons. Same date last year 25,275 of which 51 were lemons.

NEW YORK, Sept. 3.—The market is slightly higher on extra fancy stock and steady on other grades. Weather hot and muggy. Seven carloads sold.

Aver.

Vi-let xc D M Ft Ex	4.50
Topaz xc Cal C U	3.75
Sapphire ch Cal Cit U	3.55
Amethyst st Cal Cit U	3.10
Stag xfy A C G Ft Ex	4.55
Hunter st A C G Ft Ex	3.40
Pointer xc A C G Ft Ex	3.90
Mahala O Gr Cash Assn	5.45
Cerrito O Gr Cash Assn	4.65
Swastika Or Gr Cash Assn	3.30
Cerrito, halves	2.15
Grapefruit, halves, Mahala	3.60
Cerito	2.90

ST. LOUIS, Sept. 3.—Lemon market is weak on account of condition of fruit, which is showing much decay. Weather cool. Two carloads sold and three on tracks.

LEMONS—

Pico st Semi-Tropic Ex Whittier	2.80
Picnic st Semi-Tropic Ex Whittier	2.20
Harbor ch Chas Mohnike	3.65
Standard st Chas Mohnike	2.90

BOSTON, Sept. 3.—The market is steady. It is raining. Two carloads sold today and ten carloads on tracks.

VALENCIAS—

Whittier xcSemi Tropic Ex Whit	4.30
Pico st Semi-Tropic Ex Whittier	3.65
Stag xfy ACG Ex Azusa	5.00
Pointer xc ACG Ex Azusa	4.60

PITTSBURG, Sept. 2.—The market is steady.

VALENCIAS—

Telmo	3.25
Pointer xc ACG Ex Glendora	3.60
Hunter st ACG Ex Glendora	3.65

FERTILIZER FOR WHEAT.

In some parts of the East farmers giving up wheat growing. Many of them think it useless to try and compete with the newer and richer soils of the West. Many argue that wheat growing is profitable only on new and rich soil. Mr. C. R. McKensie, of Westfield, New Brunswick, undertook to see if by the use of chemical fertilizers on poor soil he could not compete with Western grain fields.

He selected a piece of dark loam, slightly gravelly soil which had had no fertilizer for ten years. It had been in grass, and farmers can readily understand its poor condition for grain. In order to test the soil, Mr. McKenzie used nothing on one part of the field. On another part he used Thomas Phosphate to supply phosphoric acid and nitrate of soda to supply nitrogen. On another part he used the phosphate and the nitrate and in addition, muriate of potash. The object of this was to see which element was the key to a wheat crop on that soil.

The natural soil gave only 10 bushels. The phosphate and the nitrate brought the yield to 25 bushels, but when the potash was added there was an increased yield of 16 bushels per acre. It is evident that this increase was directly due to the potash, and when we compare the cost of the potash with the price received for 16 bushels of wheat we see that few other farm investments could have paid so well. Consider the price of wheat and straw on an Eastern farm and it is plain that no Western wheat field can compare acre for acre with such a yield as 40 bushels. The main reason why some Eastern farmers say that wheat will not pay is because they use the wrong kind of fertilizer. They use a smell of nitrogen, a peck of phosphoric acid and a pinch of potash. No wonder their yield is poor. Mr. McKenzie's experiment shows why. The wheat crop demands potash. If the soil will not supply it the fertilizers must do so.

A fly buzzes its wings at the rate of 352 times a second.

See us for Sanitary Milk Bottles. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.



CONGO

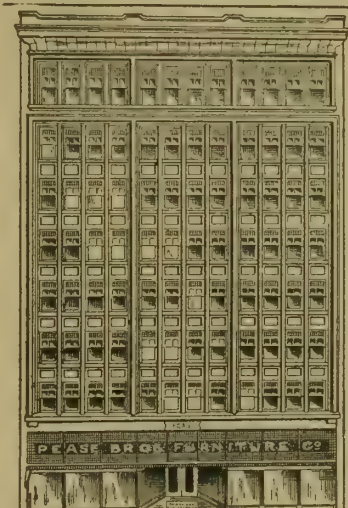
THE NEVER-LEAK ROOFING

Congo can't leak, or rust, or rot, or melt in the sun, or freeze in the cold, or dry up, or get brittle, or crack, or rip off in a wind.

Congo can fit snugly on a roof, keep out the rain, the snow, the damp and the cold for many years, with a minimum of care and attention.

Its strongest point is its durability. Send for a free sample.

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The Largest and Finest Stock of Furniture in the West

German Rugs

An interesting item in our rug department is the new shipment of large size, seamless rugs, which were just received direct from Berlin. They are in beautiful new and exclusive patterns and in sizes 9 ft. 10 ins. by 13 ft. 1 in. and 11 ft. 10 ins. by 14 ft. 3 ins. We also have about 75 different patterns in small sizes. They are all excellent qualities. Extra large sizes made to special order up to 33 ft. wide.

Ladies while down town shopping should take advantage of our rest room. You will find telephones, writing desks, stationery and many conveniences here for you.


Prompt Delivery in Perfect Condition
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TELEPHONES EXCHANGE 4567

Business Notes

THE SEPARATOR NEWS

for Autumn, will be ready for distribution September 15th.

About farm separating, and especially about the Tubular separator; illustrated in colors; offers catalogues, "Business Dairying," matchholders, mirrors pictures.

The News also tells about the piano competition open to buyers of Tubulars during 1907.

The Separator News is free to those asking for it. Three illuminated post cards, will be sent to those who send the names of two other persons, interested in dairying, who do not own Tubular separators.

The Sharples Separator Company, West Chester, Pa.

LAST A LONG TIME.

One of the old-time houses of San Francisco which manufactured tanks for many years, is that of Mr. Geo. Windeler of 144-154 Berry St.

Mr. Windeler says that he believes in the motto that "Tanks that are well made will last a long time." If they last a long time, long time friends are made, and the business grows because of this.

Water tanks and wine tanks are both made and all from carefully selected stock. Cultivator readers who may be interested should write this house and get prices.

It may save money.

ABOUT FIXING THE ROOFS.

You will find in the advertising pages of this issue an announcement of a new free book about fixing up the old roofs.

You can have one of these books by writing to The Anderson Manufacturing Co., of Elyria, Ohio, and mentioning the Cultivator.

It is full of good, sensible suggestions for saving money on roofing. Write for it. It's worth while.

AT THE STATE FAIR.

Many in this State who have never seen a foot-power milking machine can do so by attending the State Fair at Sacramento next week.

The A. F. Steiner Co., of Berkeley, will have a machine in actual operation daily with demonstrators to explain its care and working.

Even the Japs are forming a union and are to have control of the Lodi labor situation. One of the steps already taken is to advance wages from \$1.75 to \$2.50. Growers are compelled to pay the price or allow their fruit to rot on the vine.

California tax payers are regaled with the fact that their money can be paid out in the interest of the State Fair at Sacramento, along certain lines, only upon consent of Labor Unions.

Warehouses at Stockton are rapidly filling with wheat and barley from the upper San Joaquin country. It is the heaviest for this time of the year for many a season.

A Life Income from Land Investment

7 per cent. guaranteed, payable semi-annually. No risks. Sugar plantations pay 33 1-3 and more when in full cultivation. One planting good for dozen years.

We own 9489 acres of richest land in State of Vera Cruz, Mexico, near Tampico. Sell you one to a hundred acres and contract to cultivate for fifty years and pay you the profit.

Best Crop Profit in the World

No other crop in the world as rich or as certain. Our plan is simple and safe. Your money does the work for you.

We Do All the Work—You Stay at Home and Enjoy the Profit

It will pay you to know more of our sugar plantation profit-sharing plan. George Gould, speaking of this section, says: "The great Southwest will surprise the world in the next ten years with its development." Let us tell you more.

First Class Agents Wanted Everywhere.
Write Us for Complete Information, Booklets, etc.

TAMPICO SUGAR COMPANY

501 Union Trust Bldg., Los Angeles

References: Broadway Bank & Trust Co.

Smith's Portable Power Sprayer

For 200 Pounds Pressure

1 3/4 H. P. Engine

240 Gallon Tank

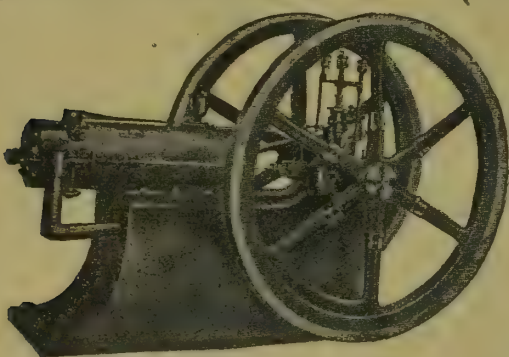
Complete Outfit, including Hose and Nozzles, ready for operation.



Powerful, well built, durable and efficient. Write for special circular and prices.

Large Variety of Hand Sprayers in Stock

S. J. Smith Machinery Co. Power and Pumping Plants
212-214 So. Los Angeles St., Los Angeles, Cal.



Don't Experiment

With untried engines. Buy an engine with a **guarantee** of the **lowest cost for fuel**—the

White & Middleton

Absolutely reliable, tested and proved.

Wm. Gregory

602 No. Main St., Los Angeles, Cal.

STEARNS GASOLINE OR DISTILLATE ENGINE

Has many points superior to any other engine.

Hundreds In Use
Every One Satisfactory

Built for California cheap fuel.
For further information, write

STEARNS GAS ENGINE WORKS

1001-3-5 North Main St. Los Angeles, California

500,000 FEET OF WATER PIPE

All sizes, Galvanized and Black, slightly damaged.
Special Price While It Lasts. Phone or write.

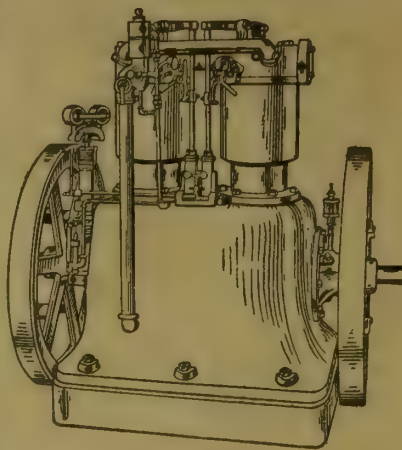
ADAMS PIPE CO., 603 Grant Bldg., Los Angeles, Cal. Phones: Main 1917, Home 1917

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UNTIL YOU INVESTIGATE "THE MASTER WORKMAN," a two-cylinder gasoline, kerosene or alcohol engine, superior to any one-cylinder engine; revolutionizing power. Its weight and bulk are half that of single cylinder engines, with greater durability. Costs Less to Buy—Less to Run. Quickly, easily started. Vibration practically overcome. Cheaply mounted on any wagon. It is a combination portable, stationary or traction engine. SEND FOR CATALOGUE. THE TEMPLE PUMP CO., Mrs. Meagher and 15th Sts., Chicago. THIS IS OUR FIFTY-THIRD YEAR.

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DISTILLATE AND GASOLINE



SINGLE AND DOUBLE CYLINDER.

STATIONERY AND PORTABLE

For all kinds of Ranch service and special for electric lighting.

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1 1/2 H. P. to 50 H. P.

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Samson Gasoline and Distillate Engines

Are Strong and Durable Fully Guaranteed in every Particular. We make complete Irrigation Outfits.

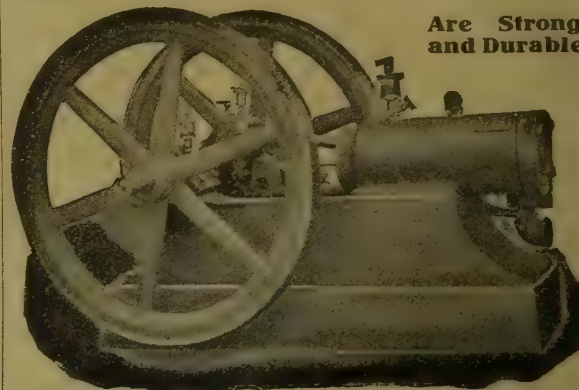
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Enlargement of our factory makes it possible for us to make prompt delivery.

Send for our new catalogue and estimates.

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Office and Factory:
1100 to 1198 Aurora St. Stockton, Cal.



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Our Superior Lines of



Water Proof Flume Linings

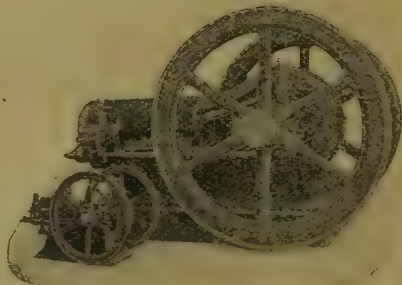
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Are in great demand. There's a reason. Tell us your needs. Samples and prices, free.

Pioneer Roll Paper Co.

Salesrooms—219-221 South Los Angeles St., Los Angeles, Cal.
Phones—Home, Ex. 228; Sunset, Ex. 22

The Callahan Oil Engines



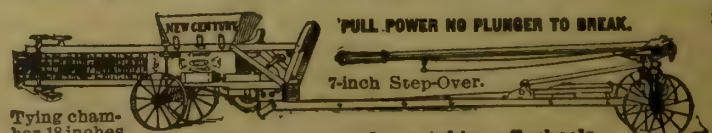
The Highest Grade Made. Won First Prizes at Sacramento and Porterville Fairs. Large Stock always on hand. Send for Pump and Engine Catalogues.

G. W. Price Pump Co.

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BRANCHES — Sacramento, Visalia, Porterville

NEW CENTURY HAY PRESSES



Tying chamber 18 inches off ground.

Stands up to its work, no taking off wheels.

STRONGEST PRESS ON EARTH. ALL IRON AND STEEL.

Constructed especially for heavy California hay baling. Write for proposition to ship you a New Century on 10 Days Free Trial. Sold on easy payments. Shipped direct from warehouse in Los Angeles. For full particulars address **Capito Carriage Co., 12th and Main, Los Angeles, Cal.** Two Second-Hand Presses For Sale at a Bargain

EDISON PHONOGRAPHS, VICTORS, ZONOPHONES
Records and Supplies, delivered at your nearest railroad station upon receipt of full retail price. Write for particulars and ask for catalogue.
Peter Bageluppi & Sons, 113-16 Fillmore St., San Francisco

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CA
Slack

California Cultivator

Los Angeles September 12, 1907 San Francisco

Welcome to Irrigation Congress



Scene on the Sacramento River in Colusa County

Ye are welcome, Irrigationists, to California's clime!
You have rivered on in triumph since the old Egyptian
time;

You have fertilized the valleys of the Ganges and the Nile,
And Romantic days in Britain were embrightened by your
smile.

The Colorado desert you have made a garden home
For thousands of our people, and for thousands yet to come,
And Sacramento's river, while cascading to the sea,
Will lend its waters to the soil for grain, and vine and tree.

All round about Los Angeles, the southern country o'er,
To orange, walnut, lemon grove, you give the open door;
And through expansive Stanislaus, on every hand behold
The wealth that Irrigation brings—its blessings manifold.

When Ceres holds high festival throughout the San Joaquin,
And children on their May Day crown the fairest daughter
queen,

Our happy country people, mid fields of golden sheaves,
Pay grateful tribute to you beneath the oaken leaves.

See yonder grand procession, marching on through Fresno's
vines!

They gather muscat, emperor, and grapes for finest wines;
Three hundred thousand acres now are passing in review,
And this—the vineyard of the gods—was given us by you.

Ring out the bells of welcome, then, for Irrigation's host!
They come to us with tidings glad—they make the joyful
boast;

"That California's arid land, from sea to mountain height,
Shall be the homes of plenty—the Harvest Moon's delight."

Ye are welcome—yea, thrice welcome! In Memory's Hall of
Fame

You have builded lasting monuments in Irrigation's name;
Not painted masterpieces of achievements in veneer,
But you have made the harvest home a harvest all the year.

—J. J. Galvin

Coulson's Improved Mash Egg Food

**Takes
Less
Feed

Makes
More
Eggs**



IF YOU WANT PLENTY OF EGGS THIS FALL AND WINTER when prices are high, you must lay your plans now. The hens must be given a strong feed which will enable them to get through the molt without loss of condition, and they will then quickly commence laying again.

First, see that your hens are healthy when they start to molt. At this time of the year, after a heavy laying season, they are apt not to be at their best, and a little of *Coulson's No. 3 Condition Powder* will put new life into them, and enable them to thoroughly digest and use the good food which they specially need.

At the same time, they must have the best food you can give them from the commencement of the molt. You will find *Coulson's Improved Mash Egg Food* is just what is required. It is strong in protein, due to the blood, meat, bone and oil cake meals which it contains.

Put Up in 90-lb. Sacks Directions in Each Sack

Your hens will not need to eat so much of the concentrated food to obtain the egg-making and feather-producing materials they need, thus saving their digestive organs and your pocket at the same time.

Coulson's Improved Mash Egg Food is therefore beneficial in two ways. Less feed is required and the hen gets just what she needs, with the result of a quicker molt and more eggs.

First cost is not everything, but even in this respect, COULSON'S IMPROVED MASH EGG FOOD shows to advantage. A 90-lb. sack will make a meal for 1250 hens. This is just over 2 lbs. a hen a month. Think how many eggs does it take to pay for this feed? In November, only 1 egg, and not more than 2 on the average.

We know what this feed will do by results on our own poultry ranch, as well as from testimonials from pleased customers all over California. What it does for others, it will do for you.

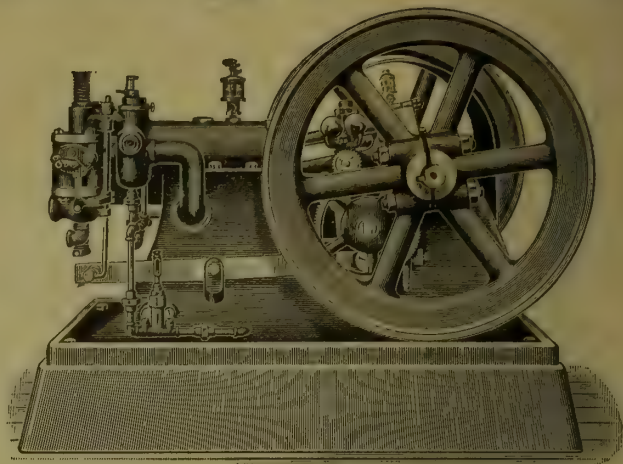
Give a trial order to your dealer; if he does not keep it, write to us, and we will either advise you where you can get it locally, or supply you direct.

Manufactured By

Coulson Poultry and Stock Food Co.
Petaluma, California

GERMAIN SEED CO., LOS ANGELES, CAL.
Distributing Agents for Southern California

Alamo Engines

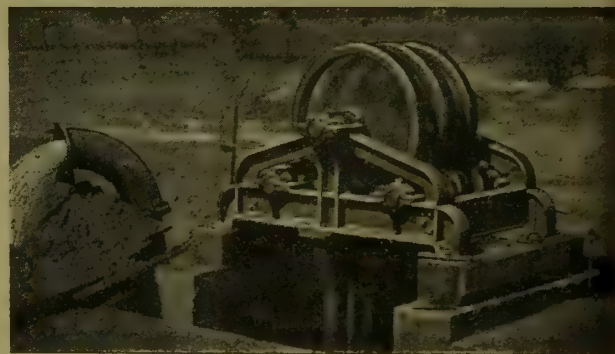


Gas Engines Like automobiles have been greatly improved in the last two or three years. When buying an engine don't buy an antiquated model. Buy an engine that embodies all the latest improvements. THE ALAMO is the modern distillate engine.

SEE OTHERS, BUT DON'T BUY UNTIL YOU'VE SEEN
AN ALAMO. DROP US A CARD.

Norton Engine and Power Company
201-203 No. Los Angeles St. Los Angeles, Cal.

Addison Double Plunger Pump Head

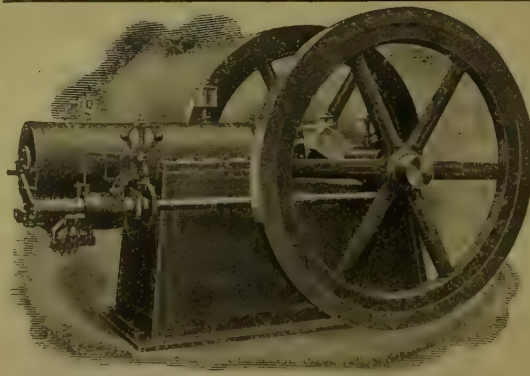


It will pay you to investigate the Addison before purchasing a pump. Send for Catalogue B.

Addison Pump Company

Phones: Home 91; Sunset, Black 1551

Cor. 1st and Cypress Sts., Pomona, Cal.



Columbus Engines

Have Stood the Test
14 Years

Fully guaranteed. Most simple and economical engine on the market today. You can't go wrong on a Columbus.

**Greenleaf-Compton
Company**

121 South Los Angeles St.,
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National Wood Pipe Company

Woodward Pat. Machine Banded Pipe, Wheeler Pat. Continuous Stave Pipe, Bored Wood Water Pipe

Made from California Redwood **WOOD PIPE** Or Selected Puget Sound Yellow Pine

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San Francisco Office: 288 Market St.

Los Angeles Office: Cor. First and Spring Sts.
Salt Lake City, Utah: Deely Block

▲ Booklet, "The Whole Story About Wood Pipe," mailed free upon request.

California Cultivator

Vol. XXIX—No 10

Los Angeles, California, Thursday, September 12, 1907

Subscription \$1 a Year

The National Irrigation Congress

The Greatest Meeting Ever Held by This Representative Body
of Americans Working for the Advancement of Arid America

WHILE it cannot be said that the Irrigation Congress, held in Sacramento last week, was entirely harmonious, it is true that in main the right spirit predominated and taken that cannot help but result in great to the irrigation and forestry interests of State in particular, and of the nation in general.

It was a fairly representative body and dominated by some of the brightest minds in the country. That the "kicker's brigade" put in evidence is not at all strange for, with question, there are men who have grievances they wish to air at these gatherings. There are also unscrupulous men who use every occasion to work out their own selfish aims, possibly to set up the cry of "stop, thief" in order to throw discredit on a good movement and attract attention from their own real motive. But if all there were many great addresses made, generally in favor of complete support of policies of President Roosevelt in the matter of reclamation of arid America. In fact, one of the notable incidents of the convention was the reading of President Roosevelt's message to the congress which was as follows:

The officers and members of the National Irrigation Congress, Sacramento, California.

Men:
Send you hearty greetings, and my earnest wishes for the fullest success of your convention. I congratulate you on the progress of the movement you represent. There is no movement more emphatically for the benefit of the small farmer and the small ranchman. There is no other way to assist the actual settler and the farmer who owns and tills his own land so successfully as through this movement of yours for the wise use and preservation of the waters of the forests. The reclamation service and the irrigation service are directly adapted to help the farmer make and maintain a prosperous home, and they are doing it. These services were recently inspected on the ground by the Secretary of the Interior and the Secretary of Agriculture, who have them in charge, and I congratulate you on the high standards of integrity and efficiency which you have attained.

It is a matter of sincere satisfaction to learn that you will not confine yourselves to questions of irrigation and forestry, nor even to the conservation and conservation of streams, vastly important as these are to every citizen of the United States. I am glad to know that you will pay attention to that problem of which forestry, irrigation and water conservation form but part, the fundamental problem of the conservation of all natural resources. The work of the movement along the line of this greater problem cannot be made effective without the approval and support of the whole body of citizens. Educating, guiding and crystallizing public opinion in this direction, by bringing the needs of the people clearly and forcibly to the knowledge of their representatives, you are rendering a service of the first importance to the nation as a whole.

THEODORE ROOSEVELT.

The welcome to the delegates to the State of California, Governor Gillett extended a most cordial welcome and the offer of the greatest of God's footstool. Among other things, he said:

The delegates loved the sunshine, the flowery mountains, the fruits, all God's gifts, he gave it to them freely—for a few days. They wanted them to remember that it was for a few days only, during the session of the congress. He put the State of California in their hands for the session and would expect it returned at the end of it, with the forests conserved, the great navigation schemes carried out perfected. He did not want them to go

away, but if they had to, he hoped to see them come back later and the State would give them citizenship, and they were welcome to that, too. He extended to them a hearty welcome—a California welcome—the heartfelt welcome of the people of this glorious State, and hoped their session would be both pleasant and profitable to them.

Vice-president Fairbanks made a strong address which compelled the delegates to say that he was not so cold after all. Regarding the work of the government along reclamation lines, and the benefits to the arid west and the nation as a whole, he said:

The suggestion that the government should

unproductive land has become the most fertile. From the worst it takes rank as the best. It is hard to find anywhere more apparently unproductive land than that which is occupied by sagebrush and no more bountiful harvests are gathered than those which this same forbidding land produces when touched by the vitalizing influence of irrigation. There are promising fields today where there was no sign of habitation before we entered upon the present reclamation policy, and what is being done is but prophetic of what we shall accomplish if we faithfully adhere to the policy upon which we have entered and carry it out to the limits of its possibilities.

The storm center of the meeting was the resolu-



An Irrigation Canal in Colusa County, California

Scene Near Princeton

participate in the work of irrigation awakened some opposition among those who had given little thought to it and who failed to realize its tremendous possibilities. I look upon no incident of my public service with more satisfaction than the support which I give to the reclamation act upon the statute books. The measure now speaks for itself. Its critics have become its supporters, and the marvel of it all is that its virtues were not earlier foreseen and such a measure sooner enacted. The work of development under it may sometimes seem to be slow. The results, however, are sure. Those who are familiar with what has been done by the government will agree that much progress has been made and that the faithful execution of the law will result in bringing under a high state of cultivation many millions of acres of land which are now unproductive.

The effect of irrigation in this western country can be appreciated only by those who are familiar with it from personal observation. The change made in the conversion of an arid waste into fruitful fields seems almost incredible. There is no more radical transformation to be found anywhere than in the parched valleys and plains which have been irrigated and which prior thereto produced nothing but sagebrush. The most

lution committee. One of the warmest discussions being on a topic not closely allied to irrigation, or at least not to the supposed aims of an irrigation congress, but at the same time very near to the heart of every deciduous fruit grower of California. This was a resolution offered by A. R. Briggs calling for an expression of the congress that the Department of Agriculture's ruling in regard to the sulphuring of dried fruits should be modified and rendered less unjust to the producers. This resolution was laid on the table in committee as was another resolution referring to the manner in which Los Angeles had obtained permission to use the water from Owens river.

Dr. Pardee told of how he and President Roosevelt were once riding through a smoke-clouded forest. The hot smoke choked them and they were scarcely able to speak.

"Governor Pardee," inquired the President, "what causes this smoke?"

"The lumbermen are burning brush," was the reply.

"Damn the lumbermen!" exploded the President.

"And I being a devout Governor," said Dr. Pardee, "uttered 'Amen.'"

Dr. Pardee then went on to say that the President remarked that he did not damn the good lumbermen, only the bad, and to this he then Governor uttered another fervent "Amen."

Sacramento did herself proud and entertained royally, closing the great Congress with a spectacular display worthy the great subject.

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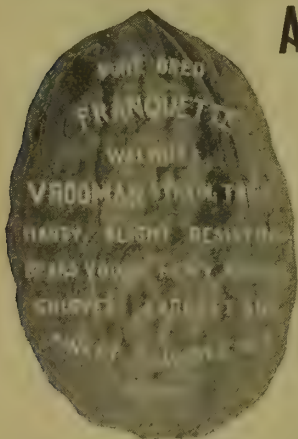
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Extracting the Juice.

Grapes that are fully, but not over-ripe, are selected, thoroughly washed in clean water after removing any parts of bunches that may be decayed. If an ordinary fruit press is at hand, the grapes may be ground and pressed through that. Not having this, place the grapes in an open vessel and crush with a potato masher. It is better when making a small amount of juice to pick the grapes from the stems. After the grapes have been well crushed, put them in a cotton bag of rather loose web and extract the juice by twisting. If the weather is cool, it may be hung up and allowed to drain over night. A colander may be used by placing a plate on top of the bag and a heavy weight left on over night. Place the colander in an earthen dish.

Filling and Sterilizing.

Fill quart fruit jars, if nothing in glass jars is at hand, to within an inch of the top; place in a wash boiler with a wooden rack in the bottom so as to keep the jars off of the metal bottom, fill with warm water to within an inch of the tops of the jars and heat till the temperature is 185 degrees Fahr. Have the metal tops of the jars in a pan of boiling water ready to put on the jars. Place over the tops of the jars circular pieces of filter paper which can be bought at any drug store, and screw the tops down over them. Two papers on each jar should be used. Set the jars away in a cool place for a couple of weeks when the sediment will have collected in the bottom.

Clarifying.

If it is desirable to bottle instead of putting the juice in jars, fill the bottles within an inch of the point below where lower end of the cork will be when inserted. Place the jars in the wash boiler as indicated above. Be sure to have the wooden bottom in the boiler. Heat the water to 180 degrees and allow it to stay at that temperature for twenty minutes. Have new corks handy in a hot paraffine bath, take them out with a pair of tweezers and place them in the mouth of the bottles before taking them out of the water. The bottles must be removed from the hot water immediately after inserting the corks or they will be forced out by the generation of the steam. The corks should be forced into the bottles at once and resealed with a light painting of hot paraffine. This will so completely seal the contents of the bottle that there will be no possible chance for it to become inoculated with the elements of fermentation.

Should fermentation take place later on, it will have come from bacteria already within the juice or bottle.

Where the grape juice is for home use entirely and the presence of sediment is not objectionable, the second heating is not necessary, though it is

much safer. The fungus spores that are in the liquid may not all be killed at the first heating and the second time they may be in a more susceptible condition when the heat will exterminate the last of them. When a clear juice is desired, it is necessary to heat twice. After heating the first time and allowing it to settle as described above, drain off the liquid and be sure not to allow it to get as hot as at the first heating or another lot of sediment will be desposited.

To Give Color.

Zinfandel makes one of the best unfermented grape juices. Some of the sweeter kinds are sometimes used but they soon cloy while the more acid sorts do not. Most black and red grapes have a clear juice. If it is desired to have a colored juice a few skins of a black variety heated to nearly boiling will give a red juice that will give good color. There are several varieties of grapes that have red juice. Alicante Bouschet is, perhaps, the best. Manufacturers of unfermented grape juice pay an extra price for these grapes for coloring purposes.

FRESNO GRAPE OUTLOOK.

Regarding the raisin season which is now well on, the Fresno Republican says:

"Picking of Muscat grapes for table use has been in progress now for a week, and the picking of raisins will commence within the last few days of this month, or possibly sooner in some sections. The crop is better than it has been in the last two years, but not so large as was expected a few months ago.

"Vineyardists say that the crop is in good condition, and has not been hurt by the unusually cool weather this summer. The grapes now being picked for table are very sweet, and do not seem to lack sugar. From present indications, the grapes should have a good proportion of sugar when ripe and ready for the drying. Muscats are a good crop, better than the black grapes in most localities.

"The consensus of opinion among the leading packers of this section places the maximum size of the crop at not more than 60,000 tons, despite higher estimates which have been made at times. Last year's crop was about 50,000 tons. The growers also agree that the talk of a 'phenomenal' crop is without foundation, beyond the fact that this year will have slightly more than the average, and will even be exceptional in some localities. Enough grapes to lower prices made, however, do not seem to be in sight.

"The black grapes are a shorter crop than the Muscats and Malagas, and will not all go to the wineries, even then. Many of the vineyardists say they will dry and convert into raisins as many varieties as can be handled in this way. Although the finished product in no case is as valuable as the Muscat raisin, still even as the under prices, more can be realized from them as raisins than as winery material. Besides the Muscats, raisins will be made extensively this year from seedless, Malaga and some varieties of black grapes, unless the wineries come through with a higher price.

"As to comparisons between this and last year's crop of the wine grapes one winery man said he could determine better when he had his stuff in the winery, but did not believe he had as much during the former season. His vineyard is a representative one.

"It is still a little early for specula-

tion as to the exact tonnage of the Muscat crop this season. A large amount of conjecture is naturally involved in the predictions made. Judging from present indications, the year is to be a remarkably good one for the grower, however.

"Practically all of the seedless table grapes have been shipped from the vineyards and the Malaga season is at its height. By the time the Malagas have played out the Muscats will be at their best."

A RAISIN FESTIVAL.

Regarding the "Raisin Festival," and its mission, in Fresno this week the Republican says:

"The entertainment of an exceptionally important set of visitors will be the purpose and the inspiration of the raisin festival this year, and its character will be determined by that end. But it is worth while to make this the beginning of an annual vintage festival, developed in our own way, for our own purposes, which may become a permanent custom. The genial vintage festivals of the old world are probably beyond our reach. They are the traditional outcome of the pleasure-seeking instincts of a people who have lived for centuries in the same place. Ours must be more less artificially organized on business principles. There the actual working grape gatherers, men, women and children, are the center of the revels. Here, the gatherers are mostly Japanese, Chinamen, Indians or imported whites, of whom we have a hideous tradition that the only amusement we need to provide for them is the tenderloin. A European vintage festival is a thing to be dreamed about, but we cannot do it. We can, though, do something less poetic but more practical, which will be worth while. In trying our hand this year, we may learn some lessons for the permanent future."

WHAT'S IN AN APPLE?

The average per centage of juice extracted from apples during the process of cider making is much less than is usually supposed. A little over 50 per cent is about the average. The average water content of apples is about 80 to 85 per cent and the dry matter 14 to 20 per cent. An 80-ton hydraulic press at the Virginia Experiment Station only succeeded in extracting 74 per cent of the total weight of the fruit which was the juiciest to be had. A large per centage of the juice contains solids held in solution. 70 per cent extracted is a high average for the best presses.

Summer varieties contain less juice than late varieties and all varieties vary according to the stage of ripeness. Some varieties are naturally low in juices and crab apples run the highest. Commercial presses, according to the Virginia Bulletin, extract a little over 53 per cent of the fruit.

The loss of sugar in the pomace is great, being as high as 65 per cent and in no case less than 30 per cent. The average for summer varieties is about 45.5 per cent; autumn varieties, 44 per cent; winter varieties, 40.7 per cent and crabs, 38.3 per cent.

By adding some water to the pomace, a good quality of vinegar ought to be secured.

An acre of peach trees will in ten years use 490 pounds of nitrogen, 125 pounds potash, 300 pounds phosphoric acid and 370 pounds lime. This calls for good culture and fertilizing.

A private letter to a Rivera walnut grower, says that the French crop of walnuts will be very light this year.

General Agriculture

CEMENT ON THE FARM.

WITH the wonderful development of the Portland cement industry during the past fifteen years, comes the most ideal building material ever produced. This is the beginning of the "Cement Age."

The price of lumber is advancing to almost prohibitive figures; it is, therefore, natural that a substitute material with the advantages of moderate cost, durability and beauty should be developed and looked upon with favor.

Today cement can be successfully used on the farm in the place of wood in the construction of floors, troughs, gutters, tanks, ditches, dams, walks, posts building blocks, etc.

Prof. H. M. Bainer, of the chair of farm mechanics, at the Colorado Agricultural College, makes the following valuable suggestions:

Cement.

Use nothing but the best cement that can be obtained. It should be in a fine, powdery condition and contain no lumps. Cement should be stored in a dry place, as dampness is an element of great danger.

Sand.

The sand used should be clean, sharp and not too fine. It should be free from loam or clay, as these will tend to destroy the adhesive quality and to retard the setting of the cement. Clay mixed with the sand may be removed by washing.

By sharp sand we mean that the edges of the grains must be sharp and not round or worn off, as will often be the case with sand found in the bed of a stream. Coarse sand is better than fine sand. Fine sand, even if clean, makes a poorer mortar or concrete and requires more cement to thoroughly coat the grains. A large proportion of the grains should measure from 1-32 to 1-16 of an inch in diameter. Some fine sand is necessary to help fill the spaces between the larger grains, thus saving cement.

Water.

The water used should be clean and free from acids or alkalis. For making the best concrete, add just enough water so that when all the cement is in the form and is well tamped, moisture will show on the surface. The tamping is a very important operation and the quality of the work is dependent upon how well this is done. Unless this is thoroughly accomplished the concrete is likely to be honeycombed and imperfect, especially near the forms.

Proportions.

For ordinary farm construction, as the making of floors, walls, walks, gutters, etc., the following proportion is to be recommended: one part cement, two and one-half parts clean, loose sand and five parts of loose gravel or broken stone. For floors this should be tamped into a depth of from five to eight inches. This should be finished with a surface coat one to one and one-half inches in thickness, composed of one part cement and one and one-half to two parts of clean, coarse sand, mixed. Nearly all constructions which come in contact with water should be covered with a mortar at least as rich as the proportion last named. For engine foundation, one part cement, two parts sand and four parts broken stone is best.

In estimating the amount of material necessary for a certain construction, do not make the mistake of

thinking that a mixture of one barrel of cement, two and one-half barrels of loose sand and five barrels of gravel or broken stone will make eight and one-half barrels of concrete. The sand will fill the voids between the gravel or broken stone and the cement fills the voids between the grains of sand. The total amount of concrete will be but slightly more than the amount of gravel or broken stone used.

To make one cubic yard of concrete of the following proportions—one part cement, two and one-half parts sand and five parts gravel—requires about one and one-fourth of barrels of cement (five sacks,) three and one-fourth of sand and six and one-half barrels of gravel.

Mixing.

Be very careful in measuring the

proportions. Mix the concrete as near the place it is to be used as possible. Use as soon as mixed. Do not mix too much at once.

Measure the sand first and spread it in an even layer in a mixing box, place the cement on top and turn it with a shovel at least three times. Then add the broken stone or gravel which has previously been wet, and turn the whole at least three times. Begin to add the water on the second turning, not too much at once. A sprinkling pot is better than a hose for adding the water, as it does not wash away the cement.

An objection is sometimes raised that concrete floors become slippery when wet. This fault is largely due to the fact that the finishing surface was completed with a steel smoothing trowel instead of a wood trowel, or smoothing board, which would have left the surface rough. This fault is also overcome in a great measure by dividing the wearing sur-

face into small squares about four inches on each side by means of triangular grooves three-eighths of an inch in depth. This not only makes a neat appearance, but furnishes a good foot hold for stock.—H. M. BAINER.

RECOMMENDS THE CULTIVATOR.

A good example is set by a San Bernardino subscriber in speaking a good word for a good paper. That is, in speaking to his neighbors about it. If the paper is good it gives justice to both the paper and to the neighbor to do this. When remitting the subscriber said:

"As for the Cultivator it is certainly a fine paper, most helpful and instructive. We do not find any paper of the kind equal to it. We have recommended it to numbers of people. We can never speak too highly of it. It is certainly worth more than the price charged.—WILLIAM ROBISON, San Bernardino, Cal.



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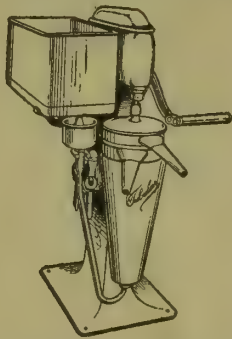
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"For what is worth in anything
But so much money as 'twill bring."

There is money, plenty of it, in pigs at present. Now let us see if we cannot talk about it intelligently enough to help some of it come to the farmers.

At Home.

The six sows on the ranch produced, in April last, fifty-one pigs, none died, all are thrifty and growing finely. Now how is this success brought about? By keeping them healthy and feeding enough, but not overfeeding, plenty of fresh water and careful oversight. Pig cholera and like diseases are guarded against by careful quarantining for three weeks any new animals introduced into the herd.

The Sow.

The ordinary farmer has sows enough of home breeding to start a large band. Now, as a start toward profitable breeding, every sow should have a metal tag put into her ear with a number on it. We use the Dana tags and find them reasonably satisfactory. After using other stock markers we come back to the Dana as having the least faults, for all of them are often torn from the ear by the barbs on the wire fences. Keep a book record of the sows and if a sow does not produce and raise a good sized litter of pigs, turn her off into the fattening pen.

The Pigs.

Watch the pigs and select the sows for the next generation from the ones that mature early. The pigs should not be two years in maturing into hogs. It will cost too much to keep them during the last few months. The local market here is for fat pigs weighing a hundred or hundred and fifty pounds rather than the heavy lard pigs. There are usually enough sows and stags coming to furnish lard for local demands, while the compounds from the meat packers in the Middle West furnish the hotel trade.

Type of Sow.

The sow should have great depth, very large around the stomach and chest, while a long body is often insisted on as necessary. I have often found that the most prolific individual sows were not the longest ones. That many successful mothers belong to the middle-size bodies types of sows. The longest-bodied ones are usually selected in buying sows, but I think it is wiser not to select those that are too long or they may be weak in the back, rather a good proportioned animal. Balance being better than excess in any particular.

Theory—Practice.

While scientists dispute the fact that certain qualities are transmitted by each parent rather than that the offspring is a mixture of all the qualities, the farmer has an idea that is grounded into him by years of obser-

Veterinary Instruments, Black Leg and Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

vation that the boar transmits the extremities as the legs, the bone, the general style to his offspring. The placing of the fat in streaking the lean with fat, the shape of the hams and the thickness of the bacon are all from the boar. While the sow gives size and vigor to the heart, lungs and strength of constitution to the offspring.

The Boar.

The boar should show the general characteristics of the sow, but his neck is thinner, forehead broader and throat and face freer from excessive, fatty tissue. The back should be wide and level and well sprung as the ribs of a hackney cab. The body should be deep. In swine there is not the marked difference in style between the sexes as there is in the horse. It is, therefore, easier for a novice to raise good pigs, for he can readily see the points in a boar, as they are unobscured by the adornments that nature adds to the male to increase his attractiveness.

Fancy Stock.

How often an inferior horse is used by farmers as a sire because of the beauty of the head and neck and the fine carriage obscures the cat hams, the flat sides and bad legs. It is out of the sore experience of some wise old man sprang the epigram about the horse, "No legs, no horse." The breeders of fancy pigs looked to the straight sides, fleshy shoulders and well-rounded hams for market pork and forgot that meat and fat must be held up by bone; so the bone of well bred pigs is often too light.

Legs.

I have had fancy prize winners purchased at the fair. Well, when they grew up the leg bones proved weak and the boar walked on the last joint of his hind legs instead of his feet. I am uncertain what the correct name of this joint is in a pig leg, but in a horse it is the pastern. In buying a young boar look at his toes, he should stand on them firmly, standing forward rather than back. The bone, that is the hock in the horse, should be straight and set straight, for when it is crooked it helps to throw the pig into a position that makes him walk on his pastern after he is aged.

Results.

This becomes a serious trouble as the animals afflicted are unable to walk around the alfalfa fields, and in damp weather chill from want of exercise. These bone troubles have driven the ordinary farmer to prefer sows of common or cold blood. It is also urged that the pure bred sows are often sterile or produce only one or two pigs at a litter. This can be bred out by culling out the defective ones, yet I fear it is rarely done, the breeders selling the sows to the farmer when they prove to be only scant producers.

Usage.

It is common for farmers to use the Berkshire, Jersey, Duroc or Tamworth boar on the grade Poland-China sows, while ordinary cross-breeding of stock is to be condemned, yet as these crosses are practiced for pecuniary returns by a high class of farmers, it should be carefully considered before being condemned.

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50 "	1.40 "	2.10 "
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These Coolers are durable, practical and easy to clean and reasonable price. You cannot afford to be without one.

We carry a large stock of "Star" Copper Coolers at prices from \$15.00 up.

Write us for prices on Pasteurizers (we have them in stock), Ripeners, Cream Separators, Engines and Boilers, Milking Machines. We supply anything used in a Dairy, Creamery or Cheese Factory. Our goods are "up to date."



Cow Milking Machines



Our Milkers operated by Foot Power are very simple, durable, easy to operate and will milk from 20 to 26 cows per hour. If you are milking cows, write us for circulars and prices, or call and we will arrange to show you our machines in **actual operation**. Our milking machines have been in daily use for **ten months** in Southern California—and are **still in use**.

Manufacturers and Importers of Machinery and Appliances for Dairy and Creamery

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Reasoning.

This is the way the pig men size the mater up: Berkshire for early maturity—for a pig that will fatten readily at any size or age for market. Jersey-Duroc for large litters. The Poland-China for rustling and large hogs; Tamworth for bacon, streaked evenly with lean and fat.

Strating with common sows is objectionable owing to the mixed type of the pigs, yet it is usually the custom. Now, much of the objection can be overcome by buying the sows from a neighbor who has bred from good sires for two or three generations. The boars can be afterwards depended on to give half their characteristics to the bunch of pigs. If the sows are good breeders hold them as long as they will breed. If the boar proves to hand down his style retain him as well at the head of the swinery. For the young sows from the first mating purchase a second boar. Usually the two sets of sows and boars can be retained for several years profitably. Then the old boars and sows are fattened off for lard, and if there are several will sell well to the local butcher; he needs pure lard for his family trade.—M. E. Sherman.

HOW TO PREVENT HOG CHOLERA.

"Please inform me how hog cholera may be prevented? Last year I had it in my herd of hogs in August of last year," writes a subscriber from Willows.

This is a difficult question to answer. In the first place, the germs of the disease may be brought to your place on the feet of horses, or on wagon tires if the horses and wagon have gone through a lot in which infected hogs have been. There are several ways of getting the disease in a herd, but only one way to treat it after it has gotten hold of the herd. In the first place, clean the yards, sprinkle quicklime generously over the ground to destroy any germs; have only pure water for the hogs to drink, and it is well to put coperas or charcoal in the drinking troughs occasionally, or an ounce of

copper sulphate to ten gallons of water is the rule. Sufficient shelter to ward off exposure to the rays of the hot sun is necessary. Do not allow your hogs to feed on the ground, nor to drink stale surface water. Disinfect the troughs with a 50-per cent solution of carbolic acid once a week. Simply rinse out the troughs, turn them over to dry and all germs will be destroyed. Tar disinfectants may be used also once or twice a week, and the hogs should be sprayed with a one-per cent tar solution at least once a week, especially in hot weather. The water and slop not drank by the hogs should be turned out to prevent wallowing in the troughs. Cleanliness is the best preventative of hog cholera. A herd that is kept clean is much less liable to attack than one which is permitted to wallow in filth.

But when, from any course, hog cholera has manifested itself in the herd in that stage when the excrement is quite fluid or when they are suffering from any derangement of the system which results in a diarrhoea, the following remedy will be found effective: Laudanum, two ounces; spirits of camphor, two ounces; tincture of ginger, four ounces; capsicum, four ounces. Mix well and give one-half teaspoonful for each one hundred pounds of live weight. As soon as the excrement shows signs of thickening, the doses should be reduced to one-quarter teaspoonful for each hundred pounds of live weight.

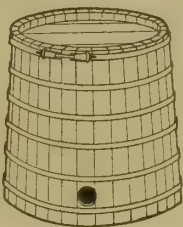
CREAM VARIATIONS.

The question is frequently asked by dairymen, who use a separator, why it is that cream varies so perceptibly in test in going through the machine.

The Kansas Agricultural College Station answers the question with the following reasons:

1. Changes in the temperature of the milk.
2. Changes in speed of the separator bowl.
3. A variation in the amount of milk run through the separator in a given time.

For practical cow milking machine see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles.



Wine Tank

Tanks Tanks

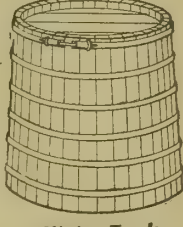
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(Kow Breakfast Food) For Sale

At fifty cents per ton F. O. B. cars or wagon, fresh from factory. Conceded to be the cheapest and best Dairy Food in California. Write for freight rate if too far to haul.

Los Alamitos Sugar Company

Los Alamitos, Cal.

4. The amount of skim milk or water used to flush the bowl when through separating.

5. Changes in the richness of the milk, either from morning and night's milk or from changes in the lactation period of the cows.

These five conditions will influence the test of the cream, even though the cream screw is not changed. But on the other hand, cream of uniform richness may be obtained from a separator by avoiding, as far as possible, variations in the conditions just mentioned.

A thin cream is obtained by running the separator below the speed, by skimming hot milk, or by crowding the separator, i. e., trying to force milk through the separator too fast; also by using too much skim milk or water to flush out the bowl when through skimming. A thick or rich cream will be obtained when the opposite course is adopted in running the separator.

SEXES OF PIGS.

George M. Rommel, U. S. Bureau of Animal Industry, in response to requests from breeders throughout the country for information regarding the relative proportions of the two sexes of pigs at birth, gives the following as the result of his investigation:

Reports were received from 82 breeders, located in twenty-three States and two Territories (Indian Territory and Oklahoma). Eight breeds were represented as follows: Berkshire, Chester White, Duroc Jersey, Hampshire, Large Yorkshire,

Ohio Improved Chester, Poland China and Tamworth. In a few cases the record of litters of grade and mixed breeding was given; these are included in the results.

The number of sows whose litters were reported was 1477. The number of boar pigs was 6660; the number of sows, 6625; and the total, 13,285. The average per sow was as follows: Boars, 4.51; sows, 4.48; total, 8.99. The figures are mainly for litters farrowed during 1906. In 49 cases second litters during the year were reported for the same sows which somewhat raises the average per sow.

Boars are seen to be slightly more numerous than sows, but for all practical purposes the sexes may be regarded as equal in number at birth. The relative proportion was found to be 1005 boars to 1000 sows. Expressed in another way, the proportion is 100.53 boars to 100 sows, which in lowest terms of whole figures is 201 boars to 200 sows.

If we would only remember that it is easier to keep cows, hogs and horses on the farm well, than to try to cure them after they become sick, we would escape a world of trouble. This may be done by having a sufficient amount of the right kind of feed fed in moderation when the system is in a right condition to receive it; plenty of pure water; given when the animals are not too hot; and then under no circumstances should the animals be overworked.

Feed a good milker a balanced ration. She deserves it.

Veterinary Instruments, Black Leg and Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

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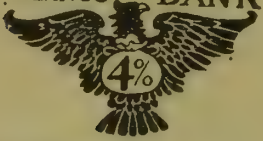
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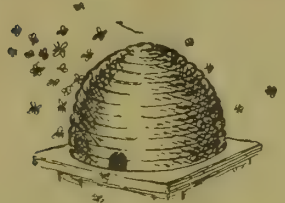
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City Ticket Office:
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Mrs. Brown—Yes, they're in Egypt now, and will spend the winter on the Nile.

Mrs. Malaprop—How nice! They'll get a chance to see all them Pyrenees and the Phoenix, won't they—(Philadelphia Press).

The Vegetable Garden

CANTALOUPE QUALITY.

LESSONS which have been learned by Colorado cantaloupe growers may give a hint to California growers. P. K. Blinn, field agent of the Colorado Experiment Station, writing from there speaks of the evil of green melon shipment as follows:

The reputation of the Rocky Ford cantaloupe was made before the days of large acreages and the shipment of green cantaloupes. It was the uniform, sweet, spicy flavor of the Rocky Fords in contrast with the flat, tasteless cantaloupe of other sections that made the hit on the market and won fame for the Rocky Ford.

The fact that the quality of the Rocky Ford cantaloupes is not so uniformly good as it was a few years ago demands the attention of every grower and commission man who wishes to see the industry continue prosperously.

What Caused It.

Several influences have caused the deterioration of the quality, and some of the elements that impair our cantaloupes are beyond the farmer's control; but the shipment of carelessly packed crates and green cantaloupes and those from badly rusted vines are the chief elements that affect the quality and are certainly within the power of control.

The commission man's experience in handling oranges, lemons, tomatoes, bananas and many other fruits which will ripen to good quality after being picked quite green, leads him to reason that the cantaloupe were not picked green enough when he receives a consignment of overripe cantaloupes and he immediately wires to "get them more green," in spite of the fact that he has experienced melon men to inspect the shipments. Every grower knows, and will admit to himself, that a cantaloupe picked before it is sweet inside will never be a cantaloupe fit to eat.

The Trick.

Without question it is a skillful trick to pick a cantaloupe on the green limit and yet ripe. It is a dangerous line, if growers are picking as green as their judgment tells them, to have a general order given to "pick greener." The result is that nearly every crate has some green cantaloupes in it, and some less critical growers will so far exceed the limit that a large per cent of his crates are too green to ever make edible cantaloupes. And so on the whole, the situation is hard to control with hired help and large acreages. It is strong argument for the small field well tilled and well marketed. The safe line to pick cantaloupes in Colorado is to have them "slip" as it is termed, when the cantaloupe easily separates from the vine. This is nature's first hint that the cantaloupe is sweet inside. If the stem or cantaloupe is broken, the quality has not reached its best and is sure to disappoint the customer. The looks of a cantaloupe and a slight pull on the stem are the tests that a practical man will use. If the melon is showing a tint of yellow it must come off. If it appears as if it ought to slip and yet not yellow the slight pressure on the stem is used, and here is where good judgment is required not to force the slip. The cantaloupe picker that has to pick a lot of green cantaloupes in order to get some just right is of no more value in a cantaloupe field than a tramp with a knife who plugs six or

eight green watermelons to find a ripe one.

Use Sense.

There seems to be too little judgment used at the beginning of the season when growers and commission men are striving to ship the first cantaloupes will ship for nearly a week before there is a ripe cantaloupe. If the growers would pick and pack as if they were the ones who were to consume, the melon's quality would improve to the best possible, and the returns from the cantaloupes would be more satisfactory.—P. K. Blinn.

CABBAGE WORMS.

From the fourth of July through the rest of the season, those who raise cabbages, whether in private gardens or for the market, will notice numbers of white butterflies over the plants. These increase in quantity to the end of the season.

These butterflies are the adults, or parents, of the green worms which eat holes in the leaves of the cabbage plants. They reproduce very rapidly, so that it takes only about a month from the time the butterflies of one generation lay the eggs until the butterflies of the next are flying about. The injury to the plants varies, of course, with the abundance of worms, but often the outer leaves are badly riddled with holes. It must be evident that plants injured in this way cannot produce as large or as good heads as uninjured plants, for the nourishment which forms the heads must be worked over in the green surface of the outer leaves before it is stored.

Remedy.

The best time to combat this pest, according to Professor Johnson of the Colorado Agricultural College, is when the injury first appears and the heads are small or not yet beginning to form. If they are thoroughly sprayed at this time, the early broods will be largely destroyed and the later injury will be less serious.

Perhaps the simplest remedy is Paris green. Mix this in water at the rate of one pound to a hundred gallons of water, or a half ounce in a three-gallon pail and apply with a spray pump. Arsenate of lead may be used for the same purpose by making the dose two or three times as strong as for Paris green.

As we all know, water rolls off very rapidly from cabbage leaves, so it will be necessary to use some substance to make the poison stick. For small garden patches the most convenient substance is soap. Dissolve this in hot water and add it to the poison solution at the rate of about one ounce to each gallon.

For large areas by far the best sticker is made in the following way: In one gallon of water put two pounds of resin; add to this one pound of potash lye; boil the mixture for one or two hours until the resin is all dissolved and the liquor is a clear coffee color. The odor from this boiling substance is very disagreeable and it is better to do this work where plenty of fresh air may be had. This quantity of materials will be sufficient for fifty gallons of the poison solution.

The Pump.

On small gardens a bucket pump will be sufficient to do the spraying. For a few plants, an old whisk broom may be used. On large trees some form of spray apparatus which will permit of using a barrel or more of

solution at a time will be necessary. This may be a barrel and pump which can be carried in a wagon with a hose attached, or a barrel and pump can be rigged on a pair of old cultivation wheels, with four short hoses attached and arranged on a framework so that each one of the nozzles will come directly over a row of cabbages. The driver walks behind and works a pump, thus spraying four rows at a time he crosses the field.

In this work we must remember that we are using poisons, and carelessness cannot be winked at. The edible part of the cabbage is formed within and the Paris green has no opportunity to reach it. These remedies have been used in this manner in many localities and a case of poisoning of either man or beast is yet to be reported.—S. Arthur Johnson.

Don't spread manure with a fork. Use a manure spreader.

Get out of the rut. Many a man who gets out helps some one else get out, too. An example is worth something.

There are times when the farm telephone has great value. If we only had the parcel post, what a saving of time to the busy farmer!

Plan your work and work your plans.

Saturate a sponge or cloth with linseed oil, and go over the surface of the rig after washing it. It removes mud stains and spots, giving the rig a gloss and appearance like a new vehicle.

Kind Gentleman—Young man, do you think you can ever save anything by smoking?

Small Boy—Why, cert; I save dollar coupons.—(Chicago Journal).

Seed Potatoes

EARLY EUREKA—1 lb., 25c; 10 lbs., \$1.00, prepaid. Not prepaid, 4c per lb., \$3.00 per 100 lbs.

Earlier than Early Rose, ripens with Triumph. White and smooth like Burbank but rounder shape. Fine quality.

UNCLE GIDEON'S QUICK LUNCH—1 lb., 40c; 10 lbs., \$1.50 prepaid. Not prepaid, 6c per lb., \$5.00 per 100 lbs.

Earliest potato we have ever tried. Entirely distinct in appearance. Earlier than Early Rose, Early Ohio, Early Eureka or Triumph. Heavy yields and fine quality.

Rooted grape vines, table varieties for next season's planting. Pioneer Nursery, Monrovia, Cal.

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Crimson Winter Rhubarb

Plants now \$1.00 per doz., \$5.00 per 100. Ask for price on larger quantities. New seed just arrived of

Teneriffe Grown Bermuda Onion Seed

Crystal Wax (pure), \$4.00 per pound

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CRIMSON WINTER RHUBARB

\$1.50 per dozen; \$6 per 100; \$40 per 1000. Plant now and get returns next winter. Pedigreed plants only.

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The Ornamental Garden

THE SALVIA.

SALVIA is a large and widely distributed genus of plants, including annual and biennial, perennial herbaceous and evergreen species. The salvia has been found in various parts of Europe, Asia, Africa and America, some of the most ornamental species being natives of South and Central America. A number of the herbaceous species have been cultivated in Victoria, many of which were insignificant as ornamental plants, while others, as *S. azurea* and *patens*, are, on account of the beautiful shades of color of their flowers, most worthy subjects.

The most popular salvia cultivated here is "Bonfire," a garden variety specially valuable for its display of bright scarlet flowers during the summer and autumn months. "Gloire de Stugdardt" closely resembles "Bonfire," being somewhat heavier in type of flower and habit of growth. Either kind is valuable for decoration of mixed groups or for bedding purposes.

pots or boxes of soil placed in a cold frame will bloom during autumn.

S. azurea produces plants of a pale blue color, and will thrive under ordinary border treatment in almost any kind of soil. The habit of growth is loose and straggling, the plants requiring to be staked and trained as growth advances. Propagation is effected by divisions of the crowns in spring, the plants producing sucker-like growths like a chrysanthemum.

In many gardens salvias "Bonfire" and "Gloire de Stugdardt" are treated as annuals, young plants being raised each season from seeds. The plants seed freely during the summer, and this method is undoubtedly the easiest. Seed should be sown for early planting in heated frames, for later in cold frames. The plants are cut down by frost in winter unless protected. In the various metropolitan plant nurseries, thousands of young plants are propagated each spring from cuttings taken from plants that have been grown in glass houses during the



Acres of Roses
A Scene in the Nurseries of the Fancher Creek Nursery Co., Fresno

The flowers do not last long on the bushes, but the calyx, which is about half an inch in length, is also bright scarlet, and lasts for a considerable time. There are several other shrubby kinds that are worthy of a place in the garden, being free blooming plants, and of easy culture. The common sage, *S. officinalis*, is a member of this genus, and is not more hardy than several varieties grown for their flowers.

Culture—Propagation—Varieties.

Most of the salvias will grow into bushes from 3 to 5 feet in height, and flower well in any garden soil. "Bonfire" may be seen growing in the public gardens and nurseries in any part of the metropolitan district, thriving splendidly in the most widely different soils. If the plants are given a fair amount of water during the summer, and are sheltered from devastating winds, they will grow practically anywhere.

S. patens requires a cooler and more shaded position to attain perfection than any other kinds. It is one of the most beautiful of the genus, producing spikes of bright blue flowers. The variety is tuberous rooting and is propagated by divisions of the tuberous roots in spring, or from cuttings of the young shoots in a hot house or cold bed frame. It produces seed freely and young plants raised in spring in

winter months. The plants are watered sparingly during winter, and are placed in heat and started into growth early in spring. Cuttings of the young growths about 2 inches long are inserted in sandy soil and root readily, after which they are potted and kept growing, and gradually hardened preparatory to being planted out in October and November. Such plants will bloom early in summer, successive plantings till early in January ensuring an abundance of bright flowers until winter. In places where frost is not severe the old plants will survive and break into growth near the base in spring. They may be pruned back to the young growths, and will make large plants during the summer, but on the whole, young plants each season, whether from seeds or cuttings, are more satisfactory. Other shrubby kinds worthy of culture are:—Bethelli, bright rosy pink flowers, tipped with white; Bruanti, scarlet; Hoveyi, dark purplish blue; Grahams, purpurea purplish crimson; Rutilans, majenta; and Splendens, scarlet. These are evergreen shrubs that may be propagated from cuttings inserted in sandy soil in autumn.—Journal of Agriculture of Victoria.

It must be borne in mind that the above was written for the antipodes. In Victoria, October and November is spring with us and the "successive plantings till early in January" which means midsummer, should in California be in early July.

KEEP UP THE STREET TREES.

J. H. Reed, the veteran tree warden of Riverside, has this advice to give the people of his city, but it applies so well to all sections that we take the liberty of quoting it.

Pepper Trees Need Attention.

In several parts of the city some of the older pepper trees look thin and pale in foliage. In most cases this may be remedied by thorough investigation.

Dig up the earth as far around as pavements or roadways will allow; make trenches as deep as practicable; fill frequently for weeks if need be and the foliage will soon begin to brighten.

It must be remembered that the feeding roots to be reached by the water extend as far out as the branches of the tree, and the water must be gotten to them in some way. But whatever the cost, it will be infinitely less than the value of the tree.

Irrigating Young Trees.

Sometimes young trees are irrigated by putting water on the surface. This is as likely to do harm as good. The moisture goes into the air instead of to the roots and leaves a hard surface if not cultivated. Make a trench around the tree some distance from it. Make it as deep as the roots of the tree will allow. Fill it two or three times. As soon as the water disappears the last time, cover the wet part with a light mulch of some kind, dry grass, dust from the road, old sacking, anything to stop evaporation, and the water goes to the roots where needed.

When the surface is dry enough to work without packing, cultivate

Help the Horse

No article is more useful about the stable than Mica Axle Grease. Put a little on the spindles before you "hook up"—it will help the horse, and bring the load home quicker.

MICA AXLE GREASE

wears well—better than any other grease. Coats the axle with a hard, smooth surface of powdered mica which reduces friction. Ask the dealer for Mica Axle Grease.

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CHAS. HOWARD
Riverside, California

Nursery Stock For Sale

First-Class Stock of Fruit and Ornamental Trees For Sale by

H. R. Johns - Sebastopol California

It is wonderful how inexpensively a street may be made attractive with a little enthusiasm, co-operation and work that is really pleasant in itself



Does this stream of water look good to you?

It certainly does to the two men standing beside it. They are the President and Treasurer of the company to whom the plant belongs.

It is raising 40 inches of water from 250 feet below where they are standing. This water goes into a reservoir 18 feet above the pump through an 8-inch pipe-line about one-eighth mile long and you cannot see a pulsation in the discharge if you try. It has been doing this for over a year. There have been no repairs, not even new leathers, and it runs better, if such were possible, today than it did a year ago.

How many pump users can say this?

It shows conclusively that it pays to install good machinery.

We have done this for these people and we can do it for you if you give us a chance. Our catalog tells all about it.

Mail us a card asking for it today.

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All seed strictly the best that can be secured.

Winningstadt Cabbage, per lb.,	\$1.50
White Bermuda Onion, "	2.50
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Crystal Wax Onion, "	4.00
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Onions and Cabbage Seed

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Bees and Their Care

APIS MILLIPICA GERMANCIA.

The Swiss beekeepers who, by the way, cultivate the bee scientifically as few people do elsewhere, were lately given a chance to indicate their individual preference for any one of the various races among them by voting for it. And here is how they voted: 76 per cent of their number favored the German bee; 6 per cent the Krainer; 3 per cent the Italians and 15 per cent hybrids. About 4000 votes were cast.

Seventy-six per cent favoring the little brown bee as against the aristocrats and patricians of the genera, looks like what in this country is sometimes referred to as "the ignorant vote." The contrary, however, is the fact in this case.

Soon after Dzierzon had introduced the Italians into his fatherland by distributing home-bred queens of his own rearing to friends and acquaintances, and their beauty, gentleness, and industry has thus become known, a mild sort of an Italian bee boom set in. Everybody wanted to know more about them, and many wanted queens. And as their wants were supplied a still more general knowledge of them thus spread, increased the demand still more. And, of course, the increase of the yellow bee translated itself into a decrease for the brown one. Moreover, the good points of this foreign importation stimulated research for possible still better material. The coasts of Africa, the islands of the Mediterranean, Egypt, Syria, the Caucasus, Siberia—competent men traveled through all those countries, singly and simply in quest of native bees. They sent home what they found. Good, bad and indifferent. But all were given a chance, and breeding and multiplying went on in great style and with it all the little brown bee became very nearly extinct.

Very nearly, yes. But high up in the mountains of the country of William Tell there dwells a people whose very local environment offers an almost unconquerable obstacle to what goes by the name of modern progress. Railroads can't run up the Matterhorn, don't you know, nor automobiles approach the icy roles of the Jungfrau very close—not yet. And in the pockets and glens and wrinkles of those towering mountain giants the German bee found her haven of refuge, and of survival.

As everything eventually becomes known by its own inherent virtues and character, so the yellow bee. The first glamor and the enthusiasm wore away in time. The sober judgment, begotten of experience, still acknowledged her many good points; but she had ceased to be the only one. And that, mainly, because the German bee had become discovered, or rediscovered in the meantime.

Not so many years ago it became known to some of the officers of the beekeepers' society of Switzerland that some one living in an out of the way place among the Alps had some extraordinary bees. The party was found, the bees inspected and bought for the society. They proved to be the brown variety, of extraordinary purity. They were given a first-class character at the sale, and they lived up to it afterwards. Searching parties were sent out to find some more of them; and they found some and with the stock thus gathered mating stations were established; more than

ordinary care being taken to have them as isolated as possible. And then queen rearing was undertaken. The experts in charge bred thousands and thousands of them, but only the best and purest of them were retained, and eventually distributed among the members of the society.

That happened several years ago, not over ten at the most, and the votes cast as mentioned above is the concrete judgment of the performances of the bee in question since that date.

As it appears at this distance the brown bee would seem to be above all a comb honey bee. They do not swarm any more than Italians, they are as gentle and prolific, and now comes their main point: They cap their combs snow white. They are hardy, disease-resisting, and very good workers even on scant pasture.

—Henry E. Horn.

NOTES ON BEEKEEPING.

Persons of irregular habits, afraid of too much work, careless or unkind, would better not undertake the bee business, or handling live things of any kind.

Let no man undertake beekeeping thinking that it is an easy task. Beekeeping is like growing a crop. It takes care and labor to make it succeed.

There are still some who argue that the most money for them is in old ideas, old methods, and common bees. They regard the new as too expensive. The best beekeepers and those who make the most money use up-to-date methods.

Those who are in the bee business because there is money in it are not as apt to succeed as those who are in also because they are fond of bees and their care. It takes a fondness for a business to obtain its best success.

Since the coming of alfalfa, any section of the country where it is grown to good advantage is well adapted to beekeeping. Beekeepers say that each colony ought to average from \$3.00 to \$5.00 worth of honey every year besides the swarms which come off.

Some localities are very much better for honey than others. Southern California and Southern Texas are among the best countries in the world. Intelligence, industry and a good location are necessary to the best results.

Bees and insects are exceedingly interesting and useful in carrying pollen from flower to another of the same species. The busy insects seem made for each other. They are after food to eat and nectar for winter food. While hunting these, a large number of flowers are visited and the fertilizing pollen distributed.

California has the name of being one of the greatest bee countries in the world. It is a land of fruits and flowers, giving bees blossoms and shade. In 1857 the bee industry was commenced there. Honey sold at \$1 and \$2 per pound and bees as high as \$100 a swarm. Now there is a good business carried on there, with honey at 6 cents a pound and bees at \$3 a swarm.—Inland Farmer.

A LOT FOR A DOLLAR.

I am well pleased with the California Cultivator.

What a lot of good things you give us for one dollar.—H. W. Rauder, Pixley, Tulare County.

Kill-Quick SQUIRREL AND GOPHER POISON

Accept
No
Substitute

IT DOES THE WORK

Effectually Destroys these Orchard Pests
Ask your Dealer for it

Prepared by
WESTERN WHOLESALE DRUG CO.
LOS ANGELES, CAL.



TENTS

Fumigating and Lemon Curing Tents our Specialties

Irrigating Hose, all sizes. Prices and Samples quoted upon application. Write your wants
Mellus Bros. & Co
Phones—Home, F 4871; S. S., Main 3500
250 East Fifth St., Los Angeles, Cal.

WITH A SEIVERT OIL BURNER

You can burn 100,000 feet of air with every 130 gallons of oil; this means perfect combustion. To burn more than 100,000 cubic feet of air with 130 gallons of oil, there is a decided loss of heat. To burn less than 100,000 cubic feet of air there is a loss of fuel. The only safe and reliable burner on the market. Send for full particulars.

SIEVERT OIL BURNER CO. 1001 No. Alameda St., Cor. Main and Ord Sts., Los Angeles, Cal.

When writing advertisers, mention Cultivator.

With the Citrus Growers

GREEN MANURING CROPS.

THIS is the time of the year to make plans for getting in the green manuring crops. The experience of the past season has made the growers hesitate about planting vetch, peas or any other green crop coming season. The rains stopped coming at the latter end of March and many growers were caught with a heavy crop of green stuff and ground. With this condition came cut worms that attacked the green stuff wherever green stuff was growing in the orchards. In some cases the ripe fruit was badly damaged, the worms having bored holes in a large percentage. This was the limit of some of the growers and the green crops got the blame for all the trouble. It is true, that green manure crops attracted the worms, but when they been plowed under at the proper time, no worms would have shown up. This was demonstrated in many places where the crops were plowed under before the last of March. In such places no worms appeared, even in districts they were most numerous. However, many sections were too wet for early plowing but had that been plowed as soon after the last rains as possible, no trouble would have occurred.

Plow Under Early.

Early plowing-under is desirable for many reasons. The most important is that it allows the grower to get his land in fine tilth before the spring rains are over. A few rains after the last plowing fills the soil with water to its utmost capacity without the disadvantage of having some of it used by the green crops. It makes a more complete decomposition of the material and hence a more quickly available source of plant food. That which lies in the ground in an uncomposed state is of no immediate use to the trees and does not do so much to the ideal physical condition of the soil as when it is thoroughly decomposed. Early plowing-under obviates and difficulties that might arise from worms or excessive water. It insures good tilth at the best possible conditions for good care.

Don't Drop It.

Growers must not lose sight of the fact that humus is the life of the soil and the best and cheapest method of getting humus into the soil is to grow it in with legumes. Many growers will not plant green crops because of the two difficulties that the last spring on account of late plowing, but they should benefit by their experience and not be drawn into repeating an essential practice. It is not necessary nor advisable to plant green manuring crops every year, but a certain amount should be grown. Three years out of five is better than none at all.

Which Best.

Canada peas were almost exclusively grown until within a few years. For the past three years the winter vetch has largely increased in use and is now the favorite crop for this purpose. It has the advantage of standing the winter cold and retaining its succulency for a longer period, thus rendering it more easily decomposed after plowing under.

Season For Planting.

Planting should be done early in the fall so that the crop will make as much growth as possible before the cold weather comes. While it

is true that peas and vetch will grow all during the winter, they will make much faster headway when the weather is warm. If early plowing is to be done, this growth must be largely made during the fall and winter. September is none too early for planting. The station at Pomona demonstrated one season that lupins planted the first of October made more than four times as much weight of green stuff than did the same varieties when planted four weeks later. The early sown plants made a faster growth throughout the entire season than did the later sown seed. That sown first sprouted several days sooner after planting than did the late sown.

After the September irrigation, cultivate the soil and plant the seed as soon as possible after the water has been turned off.

Method of Planting.

Cultivate thoroughly as soon as the land is dry enough to handle after irrigation and sow about forty pounds of vetch per acre, or if Canada peas are used, plant sixty pounds. These should be drilled in about three inches deep and the ground furrowed out immediately. An attachment used by many growers consists of a four by four timber with two bull tongue furrowing-out shovels clamped at proper distance, and this attached to the frame of the drill. The shovels should be placed so that four drill standards come between them, and the drill having eight standards will leave two outside of each furrow. The next round of the drill will bring four rows between each furrow and the next. By placing the furrowing-out shovels properly none of the seed is uncovered, they following between the rows. This leaves the orchard in shape to irrigate as soon as necessary, no further furrowing-out or cultivating being necessary till plowing time.

Inoculation of Soil and Seed.

This is an important item, but the necessity of doing it artificially has been greatly overestimated in the past. While exceedingly satisfactory results have followed this work, after the second year land which has been artificially inoculated and that which has not, show little or no difference in the growth of green crops. This is because the soil becomes inoculated with the nitrogen-gathering bacteria naturally. This almost invariably happens at the latter part of the first year if not before and if the same legumes are planted on the same land two years successively, there is always an abundance of bacteria in the soil. If it is desirable to plant a variety of legume on land where it has never grown before, the soil and seed may easily be inoculated by taking soil from a field where the same class of plants have grown the previous year, and mixing it with the seed before planting. In taking the soil, remove three or four inches from the surface and take the soil just beneath that. Moisten the seed by dipping in clear water and mix a couple of shovels full of the soil with a sack full of seed. Enough of the inoculated soil will stick to the seed to inoculate it.

The liquid in which the artificial inoculating material is grown, is charged with elements that are in themselves a fertilizer, and part of the increased growth obtained by using the medium, is due to this fertilizing element.

A FINE RANCH HOUSE.

Realizing the necessity for a home for the many men and women who are employed on the ranch, the Leffingwell Rancho (Inc.) has just finished and opened to public gaze the finest ranch house for the use of those who labor in the capacity of ranch hands that can be found in the State of California.

This ranch came into the hands of C. W. Leffingwell, Jr., eleven years ago. There are in the lemon and orange and walnut lands 500 acres and in addition to this there has been added 264 acres for grain.

Seven years ago F. W. Gray became foreman of the estate. Today the Leffingwells employ 100 men. About one-half this number are Japanese, who have a colony of their own and do not live with the Americans, who will occupy the new ranch house.

One year ago C. W. Leffingwell, Sr., thought it advisable to incorporate and increase the capital stock to \$500,000, and it was accordingly done. Then it was determined to make the property one of the best equipped properties in California. To this end immense barns were erected and all the latest machinery was procured, and the last thing to be done was the completion of the ranch house that has just been inspected by hundreds of people from all over this section of the country.

The packing-house used for receiving, washing and curing and packing the fruit has been gradually enlarged from a building 30x50 in 1897 to the most complete lemon packing plant in the State, which has now 36,368 square feet of floor space. The equipment is of the best and most modern. Two Steubner's immersed lemon washers with a capacity of three cars per day, a box-making department and ample curing rooms. The whole house is lighted by electricity and the machinery is operated by electric motors. At present an output of 150 to 175 cars per year is being handled.—Examiner.

BEST OF FARM PAPERS.

"I am much pleased with the varied reading matter in the Cultivator. Its practical articles pertaining to everything on the farm and its varied and excellent illustrations, make it the best of the four farm papers which I take.—Jacob Koenig, Lodi, California.

He (11:30 P. M.)—I'm not going until you admit that you love me.
She—Why in the world didn't you tell me that two hours ago?

Seed Bed Stock

Half Price

10,000 Orange Seed Bed Stock in good condition. Last of this season's stock. Must be sold this month to clean up bed. Address

CHAS. S. McMILLAN
232 So. Marengo Ave., Alhambra, Cal.

Citrus Trees

For Season 1908

Valencia, Eureka Lemons, Thompson and Washington Navels, Grape Fruit

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Riverside, Cal.

Lemon Curing
and Fumigating

TENTS

Irrigating Hose
Wagon Covers

Hoegge & DeYoung

323-326 East Third Street
Los Angeles, California



TENT

HOEGEE TENTS

"BEST IN THE WEST"

WE WANT YOU TO DROP US A CARD, IF YOU ARE INTERESTED IN TENTS AND CAMPING GOODS, AND PERMIT US TO SEND YOU OUR HANDSOME NEW CATALOGUE.


The Wm. H. Hoegge Company, Inc.
138-140-142 So. Main St.
Los Angeles, Cal.



Oranges and Lemons

When the right varieties are properly grown and planted, are money makers. Our new booklet on Citrus Culture tells all about the standard sorts, planting, cultivation, irrigation and packing the crop. Over 100 illustrations and something like 50,000 words of text. The price is merely nominal, namely, 25 cents. May we have your name for a copy?

San Dimas Citrus Nurseries
R. M. Teague, Prop.
San Dimas, Cal.



SOUTHERN CHIEF DISC PLOW

Made in two, three and four disc. Three furrow easily changed to a two, and the four to a three. Bearings are long and made of chilled cast iron, insuring wearing qualities. Has great penetrating qualities. A high class tool at moderate price. Ask dealer to show you

MOLINE PLOW CO., Moline, Ill.

Send 4 cents in stamps for Flying Dutchman Song Book

First Grade

ORANGE SEED BED STOCK

For Sale. Not too late to plant.

Southland Nurseries
F. H. Disbrow, Prop. Pasadena, Cal.

EDISON PHONOGRAPHS, VICTORS, ZONOPHONES

Records and Supplies, delivered at your nearest railroad station upon receipt of full retail price. Write for particulars and ask for catalogue.

Peter Bacigalupi & Sons, 113-15 Fillmore St., San Francisco

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FARMERS' INSTITUTES.

Conductor Neff writes that owing to the fact that the State Farmers' Institute which is to be held at the State Farm at Davis on Oct. 29, 30 and 31, the dates which were announced in the Cultivator a couple of weeks since, have been changed and now the following will prevail:

San Miguel, Oct. 14; Santa Maria, Oct. 15-16; Lompoc, Oct. 18-19.

BENEFITS OF THE PURE FOOD LAW.

Dr. Wiley, specialist of the Department of Agriculture, says, as a result of the pure food law, he expects to live to be 100 years old.

"I believe the pure food law will bring untold blessings on future generations, and we will all live to see man's term of life extended through its benefits," he continued.

"It is the one law that has made radical changes against which no suit to annul has been brought. This is due to the moral sentiment back of it. No business man would dare to try to have it set aside, because it would mean his commercial ruin."

In the matter of pure food drugs alone, the law will result in vast benefit to the people. Manufacturers of medicine are required to print the formula on the label, to the end that the consumer may know what he is taking. For example: Headache tablets are now labeled plainly to prevent the possibility of error in their use. The idea of making the labels explain the exact nature of the chief principle in a medicine,

the dangers of an overdose, and of making its use a habit, would make the pure food law really useful to the public. The same rule holds good in other combinations of medicine and in stock foods which is certainly a blessing to animals. On the whole, the law is one of honest merit.

RESTORATION OF THE FORESTS.

The coming to California of Gifford Pinchot, chief forester of the Department of Agriculture, will do much to awaken public sentiment on the subject of the restoration of our forests. He is an enthusiast on the subject of tree planting, because he realizes the immense need of forest restoration if we are to have any timber in this country for future use. The truth is, we have about exhausted our timber domain. On the Pacific Coast in the south and on the Lake States, we have ruthlessly devastated the forests and done nothing to rebuild the waste places.

What is true of the United States is also true in great measure of Canada. One thing is certain, we cannot go on eternally using up our natural resources in an extravagant manner without some day coming to the halting place. The devastation has been great in every way. The sea has been robbed of its treasures, the land has been mistreated in many sections until it will no longer produce the bountiful crops it once did (but thanks to a knowledge of how to restore it, the soil is being made fertile again.) Now we are also told that the supply of anthracite coal will only last 75 years longer. But none of these products equals in importance that of timber. In fact, nearly all of them are dependent on trees for sustenance. This is particularly true of the soil. Without trees the water supply will diminish, and water is one of the chief essentials in every farming community. The wheels of nearly every industry will stop when the supply of lumber is exhausted, if that time is ever permitted to come.

The necessity for restoration effort has not begun any too soon and it is well that our government senses the situation and has turned its attention to this stupendous task. But the government alone cannot restore the forests. State authorities must assist, and behind both these powers must be the common people ready and willing to assist. It requires the co-operation of every man, woman and child in the entire nation. The trusts and money kings are mostly to blame for the condition that confronts the country, but it is useless to expect aid from them. They have made their fortunes from the forests and it is not likely that they will lift their fingers to help replace them.

But the forests can be replaced, and the next quarter of a century will witness millions of acres of trees growing on lands today denuded and bare. Let us hold up the hands of the forestry bureau, and if such representations of Gifford Pinchot, for in this direction must we look for relief and for assistance in reforesting our treeless domain.

ADVERTISING MEDIUMS.

Advertisers are quick to comprehend the relative value of advertising mediums.

The daily paper has certain lines where results are obtained over weeklies, but they are few. Commercial houses, for instance, in large cities, use the dailies to obtain quick results on lines of goods sought to be disposed of quickly. But it is found that such advertising is only local in its effect and has no permanent value. The public does little but glance over the dailies and seldom retains in mind what they say; they are too big and it takes too much time to go through them. They are hurriedly scanned, thrown down and never referred to again, unless something of more than passing interest is in question.

Not so with the weekly newspaper or magazine. The rule is, that a good weekly is read by every member of the family, advertisements and all. Usually Sunday is the day for reading the weekly paper and, as it is read more carefully, its contents are more thoroughly understood and remembered. Then, too, there is more attention paid to advertisements in the weeklies by the owners, they are selected with greater care, all doubtful ads being refused and only such as are genuine being admitted to their columns. For

this reason the weekly magazine is looked upon as the more reliable medium for advertisers.

The daily has its legitimate field, viz., the giving of the current news, but the weekly combines this feature as well, and has the further advantage of more careful selection of reading matter; for there is not the hurry there is with the daily and, therefore, greater care is exercised over what goes into its columns.

Some of the most successful merchants in the country has produced have given their opinion that for results the weekly newspaper excels the daily. A. T. Stewart was one of these, and as he gave the subject very considerable thought and noted results specifically, his judgment may be accepted as worth a great deal to the advertisers in general.

Among farmers a weekly magazine, of the character of the Cultivator is pre-eminently superior to any other class of papers for advertising purposes. It is read by 25,000 men and women every week, what it states is accepted as true and it is expected of the advertiser that what he states concerning the matters he represents, the goods he offers and the prices he asks, shall be right. The Cultivator will not knowingly add to its columns a fraud, nor a scheme devised to defraud, hence its value to those having legitimate offerings in any line that interests the farmer.

The value of the Cultivator columns lays in the care taken to exclude all objectionable matter of whatever character, and we feel that we can safely say to our readers that whatever appears in the paper may be relied on as genuine. Because of this care and our large circulation, we may frankly say there is no weekly magazine in California superior to the Cultivator as a medium for reaching the general farming class.

DESECRATION OF NATURE.

The Cultivator has been preaching sermon for years against the practice of erecting billboards for advertising purposes on vacant lots in town, on public highways and on railway lines as the most flagrant desecration against the beauty of nature which the imagination of man can invent.

We are glad to note that the agricultural press generally, is condemning the hideous practice as monstrous in the extreme. Among the strongest journals of its kind to call attention to this matter is Farm, Stock and Home, which, in a recent number, calls for legislative enactment to compel a discontinuance of the practice. This paper cites the fact that the German government will not allow its streets to be disfigured, and even regulates the character of works of architecture and sculpture erected along its city squares and streets, instead of allowing them to be marred by the cupidity, whims or bad taste of property owners, and has for some years protected the best sites from misuse or depravation. Prussia goes yet further, and a bill recently passed by its Parliament provides against anything in the way of buildings or advertising placards which tends to destroy the beauty of mountain scenery, which, it is said, "will restore to their primitive beauty many landscapes whose finest features have been desecrated by the erection of unsightly billboards."

"Americans have thus far been too much absorbed in the chase of the almighty dollar," says Farm, Stock and Home, "too intent on developing the great commercial resources of our country, apparently, to give much thought to preserving its equally great natural beauties until within a comparatively few recent years when the public has been moved to demand that steps be taken to preserve Niagara Falls from threatened ultimate destruction by commercial vandals, and the setting aside of the valley of the Yellowstone for a national park."

California is the greatest sufferer from billboard nuisance we know of. Its very prettiest locations are made ridiculous by the appearance of unsightly real estate signs and other displays which destroy all the scenic beauty nature bestowed upon the country. The town and county

The Santa Fe railroad company gave a train of six Pullmans and a diner free to representatives of the Corcoran beet sugar factory last week. About 200 availed themselves of the opportunity to see the country around Corcoran and Visalia. Railroads sometimes do big things when developments of a district is in issue. Hon. Nathan Cole, Jr., president of the Visalia Beet Sugar Factory, was the central figure of the enterprise. "He is doing a great work for the farmers of Kings and Tulare counties," writes a leading citizen of that district to the Cultivator.

Agricultural Notes of the Pacific Coast

Northern California

Yuba county is growing tobacco successfully.

Mildew will affect the Sonoma county grape crop.

Work in gathering beets at Chico began August 27th.

Yuba city is forwarding a carload of seedless grapes daily.

Fig packing has begun in the packing houses in Yuba city.

A new creamery has been established at Meridian, Sutter county.

Hops in Sonoma county while not so large a crop as last year, will average fair.

"The hop crop rather below the average," is the report of a large hop buyer.

Sutter county prune crop will be excellent and some growers will net \$400 per acre.

Wheatlands finds she has to depend upon Indians for the larger part of her hop picking.

Willows has a hen which has now been setting for three months and is still well and happy.

Sacramento valley pears are selling in the East at two for fifteen cents or four for a quarter.

A Southern cotton grower who now resides in Chico, says that that section has the possibility of producing fine cotton.

Planting of beets in the Chico district section will begin much earlier next year so that the next crop may ripen as early as July.

Agriculturists and miners are having trouble over the operation of dredgers so as to destroy much valuable land along Butte Creek.

"The country here is prosperous and crops good," is written the Cultivator by its field representative, Williamson, who is in Sonoma county.

Marysville people are taking steps for the entertainment of the State Fruit Growers' Convention to be held in that city in September.

Colusa county Chamber of Commerce is exhibiting "a golden rind" watermelon, in appearance much like the cantaloupe and of similar size.

Ten dredgers are at work in one section of Pearson district on the lower Sacramento river on strengthening the levees for the next flood season.

Members of the Sonoma county co-operative Association claim that wift & Connay are interpreting a contract with producers so that wift gets all the advantage of the deal.

The election on the question of bonding the city of Oroville for the purpose of raising money to build stronger levees between the City of Feather river carried by a big majority.

The Board of Supervisors of Tehama county is to sell 12,525 town lots which were sold to the county or taxes at the rate of ten cents a piece. They are used as a sheep range at present.

A dispatch in the Union from Stockton says that much annoyance and loss has been caused to fruit growers by the White Fly which is infesting many local orchards. We think it a case of "hot air" reporting.

Central California

Stockton is to ship some grapes under the pre-cooling process.

Pajaro valley will ship twelve hundred cars of apples this year.

Green fruit shippers are promised an abundance of cars in a short time to relieve the congestion.

One Modesto melon grower grew \$400 worth of cantaloupes from four acres of land.

Santa Cruz county is urging Monterey and Santa Clara to assist in road building.

The Modesto Herald reports exceptionally fine peaches grown in that section this year.

The west side of San Joaquin valley yield of barley is proving far better than anticipated.

Kern city competed with Bakersfield in a mule race on Admission Day, and "Maud" had the time of her life.

The effort of San Francisco to tap the Tuolumne river is bringing on a pretty fight with the Turlock-Modesto Irrigation people.

Tulare Register reports a fruit grower's success with cantaloupes in which he paid for his land twice over in one year's crop.

Exeter is making efforts to pick her raisin grapes with "home-grown talent." Boys and girls are given work in preference to Japs.

Apples suitable for drying purposes, generally culls, windfalls and all those not suitable for shipping are bringing \$12.50 per ton in Watsonville.

Fruit growers of Exeter have formed a Fruit Growers' Protective Association and are serving notices that trespassors will be punished.

A fruit company at Visalia received as returns for two carloads of peaches sold in Philadelphia on the 19th, over \$4600 for the two cars.

Frederick Maskew reports the work of fumigation on White Fly at Marysville thoroughly done and believe that practically all the White Fly have been killed.

A new cannery is nearing completion at Watsonville. It is the property of the Pajaro Packing Co. Its work this fall will be principally upon apples.

San Jose has a station established by the Entomological Division of the Department of Agriculture, for the investigation of orchard insect pests. Dudley Moulton is in charge.

Exeter, which claims to be the home of the McKevitt peach, also claims a new grape produced there to be one of the finest. It is grown from the seed of the Muscat.

E. K. Carnes has finished the white fly campaign at Bakersfield and is again in Marysville. Mr. Strong, of Los Angeles, has been left in charge of the Bakersfield campaign.

Government Inspector Peary, is investigating conditions near Hollister and looking into the advisability of creating a forest reserve of approximately two hundred and fifty thousand acres.

The \$12 price of wine grapes established by the California Wine Association, does not seem to stick, for much better prices are being reported in the press of the State. One Lodi paper reports one grower selling at \$21 per ton.

Southern California

"Walnuts are dropping badly" is the report from Anaheim.

Wells are being sunk in Yucaipa valley to develop water for irrigation.

The demand for feed will be great in Imperial valley this fall says the Standard.

"The supply of dairy cattle is not up to the demand," is the cry of Imperial valley people.

Orange county is reported to be overrun with coyotes, and the Supervisors are urged to offer a bounty.

Santa Ana people in their efforts to secure the beet sugar factory have raised \$50,000 of the \$100,000 bonus demanded.

R. L. Lewis of Hemet has sold his ten tons of honey at six cents a pound. F. S. Church sold his honey at the same price.

A large quantity of Bartlett pears for table use have been shipped from Hemet the last two weeks. They are of very fine quality.

Farmers near Anaheim recently united in having a little colt show all of their own. Some very fine Belgians were exhibited.

The papers of Orange county report that W. S. Woglum, expert and special agent of the Bureau of Entomology, says that the White Fly will not exist.

Representatives of the cabbage and celery men are on a trip to the East to appear before the Interstate Commerce Commission in an appeal for lower rates.

Packing houses are ready for handling the new crop of walnuts which it is said will begin forwarding about Sept. 15th. The crop will be fair and prices good.

The Crafton Orange Growers' Association has become part of the Redlands Golden Orange Association. By this act the Golden becomes the largest individual association in the State of California. She will ship about 800 cars.

The water companies in Imperial valley are preparing for a great increase in demand for water during the coming season, as the feeling of security given by the construction of the levees, is such that a large influx of labor and capital is expected.

Prunes are bringing four cents bag basis. The trees are heavily loaded at Banning. There is an immense crop of grapes of all varieties—wine, table and raisin. At Banning, green fruit shippers are offering three cents a pound for Tokays and Emperor on the vines.

Mrs. Martha Ludin, of Hemet, had several red tomato plants and one plant of small pear-shaped yellow tomatoes growing near a flower bed in her yard last season. This year, she has one vine bearing small red pear-shaped tomatoes and several vines with large round yellow tomatoes. She lays the coincidence to the humming birds and bees that hovered over the vines last year.

The Claremont Pomological Club holds its annual picnic in Genesha Park, Pomona, the last Monday of the month, September 30. Dr. G. S. Summer will give an address on the agriculture of Australia and New Zealand. It is hoped and expected that Prof. Ralph Smith, of the Whittier station will talk of citrus diseases. County division will be ably discussed pro and con. Everybody is most cordially invited.

The Coast

A mid-summer hail storm did considerable damage to the crops around Ashland, Oregon.

The creamery at Corvallis pays for nearly ninety thousand pounds of butterfat a month.

Clackamas, Oregon County Fair, will be held at Glarstone October 10th, 10th, 11th and 12th.

Twenty thousand boxes of early Crawford peaches were shipped from Roseburg this season.

Portland quotations for the best creamery butter is thirty-five to thirty-seven and one-half cents.

Steers are quoted in Portland at \$3.50 to \$4.10; hogs, \$6.75 to \$7.00; sheep, \$4.25 to \$4.50; lambs, \$4.50 to \$4.75.

The Oregon State Horticultural Society at its recent meeting at Medford had extensive discussions as to cover crops.

Prof. Scudder formerly of the Kansas Agricultural College, has been elected Agronomy at Oregon Agricultural College.

The Oregon Agriculturist maintains that the apple growers of Northern Pacific Coast are about the most progressive of the country.

Most of the fairs in both Washington and Oregon have taken an advanced stand in prohibiting pool selling and gambling this year.

Fruit around Medford in Southern Oregon is said to be exceedingly fine this year. Pears have been netting the grower \$2 and \$2.75 per box.

While the fruit of North-central Washington is not great in quantity it is claimed some of the finest quality of fruit is put out in that section.

One dollar is being offered the Dayton, Wash., barley growers. The output of that section will be about eight hundred thousand sacks.

Heavy rains in Washington and Oregon stopped harvesting operations for a short time, but later sunshine caused the busy hum to begin.

Convicts at the Washington State Penitentiary manufactured during the past year one-half million grain sacks which aggregate in value nearly \$46,000.

A poultry association has been organized at Cottage Grove, Oregon, in order to promote the poultry industry in South Lane and North Douglas counties.

The Spokesman-Review says that one of the finest yields of grain ever produced in the history of Sherman county is due to a contract with rain-maker Hatfield.

A lawsuit is on at Tacoma because of the destruction of peaches claimed by inspectors to be infested with San Jose scale which the owner maintains he has proof were not infested.

The Spokesman-Review says that farmers of the Pacific Coast will soon have an opportunity to grow a white winter wheat which will be especially adapted to soil and climate conditions.

The State Grange of Washington has declined to take an active part in the promotion of the success of the Interstate Fair held in Spokane. Its reason for this action is the well-founded one that the management of the fair allowing pool selling at the races at the grounds.

PER
2 BUSHEL
SACK

\$1.90

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2 BUSHEL
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Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by all largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced

Petaluma Incubators and Brooders

The acknowledge standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis Worlds Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland.
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis and Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

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Beef Scraps

Raw Bone

GUARANTEED ANALYSIS:
Protein.....65%
Fat.....8%
Made of Cooked and Dried Livers, Lungs, Melts and Clean Scraps. No fertilizer ingredients in these Beef Scraps.

GUARANTEED ANALYSIS:
Protein.....25%
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Made of Clean Beef Bones, surplus fat removed. Cleanest Raw Bone on the Market.

Pure, Clean Animal Matter Poultry Foods

WESTERN MEAT COMPANY SOUTH SAN FRANCISCO CALIFORNIA

Lincoln Avenue Poultry Yards

Capt. Mitchell's S. C. White Leghorns

Utility birds of the highest grade. They will average from 150 to 280 eggs per year. The eggs will average 2 ounces and over in weight, with smooth, white shells.

Just a few breeders left at half price. **Positively no culls.**

Carl C. Curtis, Owner

Ranch Mirasol
Lincoln Ave. and Ventura St., Pasadena, Cal.
ALTADENA CARS

A GOOD TONIC

ACME ROUP CURE CURES

FED TO YOUNG CHICKS WILL KEEP THEM HEALTHY AND VIGOROUS; THE OLD FOWLS WILL MOULT QUICKER AND EASIER; FULLETS WILL LAY EARLIER AND LONGER

LEE'S EGG MAKER

IS THE BEST TONIC MADE

LEE'S LICE KILLER HENRY ALBERS CO.

IS GUARANTEED 315 SO. MAIN, LOS ANGELES

Beef, Blood and Bone Will Make Your Hens Lay

This is not a medicine but a high grade nitrogenous food. Write for free booklet, "How to make Hens Lay." Our Poultry Foods are sold by all local dealers and manufactured solely by

The Pacific Guano and Fertilizer Co.

Also Pioneer Manufacturers of High Grade Indiana and Yolo Sts., San Francisco, Cal. artificial manure. Write for our free booklet, "Farmer's Friend." Valuable to all farmers and ranchers.

Profit in the Poultry Yard

We solicit short articles of a practiced nature from the fancier and utility breeder, giving their experiences with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

RHODE ISLAND RED.

THE Rhode Island Red fowl may be termed as a bird whose origin is "different." Here we have a bird that was made by out-crossing and as a breed one that was bred longer than any fowl we know of, before we were asked to have it admitted to the standard.

A Farmer's Bird.

It seems that the Red was produced without any definite idea other than to have a red bird, strong, vigorous and at the same time have the practical qualities so much desired by the farmer.

When we say that the Red was originated without a fixed type in mind, we don't want to be credited with saying they were produced by accident, or that the fancier did not have his share in giving us the beautiful and symmetrical bird of today. What we really mean and wish to convey to our readers is that when the fancier's notice was first attracted to them that they found a Red bird, especially in the males, bred generally by the New England farmer and particularly those of Rhode Island.

That so far as type and color were concerned they ran from a Java to a Wyandotte. Specimens were even put in the show room as Buff Rocks and Buff Wyandottes.

A Bit of History.

It is claimed, and the claim is substantiated that they have been bred for 50 years, especially the male, for on most every farm in Rhode Island for a long time the farmer had conceived the idea that red fowls were more vigorous than any other color. So in mating up his flock he always selected to head his pen a red bird, even though his females were mongrels.

The first time we ever heard of them being called the Rhode Island Red was in 1879 or 1880, and is given by Mr. Edward Brown, F. L. S., in his book, "Races of Domestic Poultry." From that book we quote the following:

"At one of the first exhibitions of the South Massachusetts Poultry Association, Mr. Jenney presented some buff birds for entry, a trio alive, and a number dressed, saying that in his judgment they were the coming birds for both eggs and poultry. He was asked what they were called, and replied they had no name. Then some one suggested he give them one. "Well," said he, "suppose we call them Rhode Island Reds;" and so they were entered by that name."

Origin.

Our Rhode Island Reds have in their makeup the blood of some of the best breeds of our domestic fowl. And are the result of crossing, according to Mr. Edward Brown, the Red (partridge) Cochin and the Red Malays, with the ordinary fowl. Later, further crosses were made with Wyandottes and Brown Leghorns. It is apparent that the Asiatic blood predominates and that the Malay has had considerable influence as to the constitutional vigor of the breed.

Color.

The color and shape of a well bred Red, (that is one bred close to standard requirements) is distinctive and will attract attention and admiration from a true fancier whether he breeds them or not, but it is color, however, when the breeder holds a special position. The general surface: color of male is a rich brilliant red, excepting the main tail feathers and wing coverts, free from shafting, mealy appearance or any foreign color. So bright as to have a glossy appearance; the under color should be red or salmon, not whitish or smoky; black or white in under color in any section is undesirable. In general appearance the different sections should harmonize and color shade or vary as little as possible. The tail black or greenish black; coverts black, but may become red as they approach the saddle.

Color of female: General surface color lighter and more even than the male; free from mealy appearance or shafting; of a rich even red, not so bright as the males excepting the tail which should be black and the lower hackle feathers which should have a black ticking, but not a lacing.

Shape.

In shape, the standard of the Red is broad, long and deep. The back should be carried nearly horizontal, with slightly concave sweep to the tail.

Here is where we believe many breeders of the Reds "fall down." They are afraid of getting their birds too long. We prefer as a typical Red the Java shape to the Wyandotte shape. We predict that in the future you will see in the Reds longer and deeper, than they are bred today. Perhaps some breeder of the Reds will take issue with us. If they do, we would like to hear from them, for the Reds are a good breed and will stand up under the discussion.

AROUND THE YARDS.

Whitewash the houses, it is light, sweet and cheap.

See that your hens have no soured food.

At this time of the year many broody hens are allowed in the nests to hatch nothing but lice and mites. They should be taken out of the nests at once and placed in a run where there are no laying hens to bother.

The tourist accosted an old farmer who was standing on the bank of the Niagara river just below the falls.

"Did you ever shoot the rapids?" he asked.

"Naw," replied the old man, "but I took a shot at one 'uv 'em fer runnin' his pesky autermoveel over one uv my chickens, b'gosh!"

Indian Runner ducks are naturally the best egg producers of all ducks. When carefully selected and bred for eggs, have produced in a year from 125 to 180 eggs per duck.

Pekin ducks are quick growing, prolific and best of all for producing the broiler duck at ten weeks of age.

Rouen ducks are considered the best of all for winter roasting, though not so good as egg producers.

Chicken Pox.

Will you kindly tell me what is the

atter with my chickens? The first noticed wrong with them small blisters appeared on their combs. Later, blisters covered their entire heads, causing blindness and finally death. Is the disease contagious and what can I do for those that have it, and how to keep it from spreading?—A content reader.

Your birds have chicken pox; it is contagious and unless you give prompt attention and separate all affected birds from well ones, you cannot rid your flock of it. The cause is chicken flea or mosquito bites.

We are glad to reprint a timely article in this issue by H. O. Hawkins, poultry expert of Victoria, in Journal of Agriculture.

SUMMER CARE OF YOUNG FOWLS

owing to the very late spring many chicks were hatched in June unusual, and the hatching was in many cases extended into July. To rear properly for these late hatched chicks requires much watchfulness to prevent disease from getting a start among them. The use of incubator and brooder insures freedom from lice, but many of us still rely on the hen, and consequently must fight the lice and a number of other pests. A brooder is preferable to the hen in every way. If we depend on the hen there will be chicks cramped to death, chilled to death or possibly some lost or devoured by a neighbor's cat. With a brooder in an inclosed run there are none of these with which to contend and the percentage of chicks brought successfully to maturity will be correspondingly high. If hens must be used, the nests and all surroundings should be kept clean, and every pre-

caution should be used to keep them free from lice.

Food for Rapid Growth.

At this time my yard is full of young stock of every age from three to twelve weeks, and in the brooder yard are others just hatched. All of these last are intended for market and will be brought to the proper size as quickly as possible. They are fed cornbread and finely chopped meat scraps until a week old, then the smaller grains are added, and after the fourth week their principal food is corn, beef scraps and some green stuff. Free range is not advisable for market fowls. They should have no more exercise than absolutely necessary to insure perfect digestion, and failure to provide it will surely cause trouble. I believe that broken china gives more satisfactory results than the grit sold by poultry dealers, and the hens eat it more rapidly. In my yard I placed two boxes of grit, one china, the other commercial, and the china was taken eagerly by the fowls, while the other was not eaten at all until there was no china left.

All young stock not intended for layers or breeders should be disposed of as soon as they reach the proper size. To keep them longer is a useless expense. It is better to sell at once at the prevailing market price, though it may be low, than to wait for higher prices.

Don't Feed Wet Food.

A disease which kills many young chickens during the summer months is bowel trouble. The principal cause is the feeding of wet food. Often more food is given the fowls than eaten later and causes sickness. If

not allowed to go too far before they will eat at once, and in hot weather it soon becomes sour, is treating, bowel trouble can be cured by giving a few doses of ginger to the affected fowl. The best prevention is to feed nothing but dry food.

Lice probably cause more trouble than any of the various diseases; yet the farmers refuse in many cases to heed the advice so often given in regard to cleanliness. Lice thrive in filth, and if the house and premises are kept clean the pests will not remain. A liberal use of whitewash and lime will work wonders, but even these will prove ineffective if the droppings are allowed to accumulate for weeks. Clean the poultry house twice a week in summer, and give plenty of sunshine and fresh air.

Give free range to the young pullets if possible. They will mature in less time than if confined, and before cold weather sets in they should be laying.—Tribune Farmer.

CROP BOUND.

In some cases the contents of the crop are so much compacted that it is next to impossible to soften them by manipulation or by medicines. In that case little else remains to be done but cutting the crop open and removing the mass through the opening thus made, then sewing the wound carefully together with silk thread. In the Rural New Yorker a contributor gives his method of treating a crop-bound fowl as follows, said to be never failing if applied in time:

"Take toilet soap the size of a large pea, dip in water and put in chicken's mouth; immediately give

about four teaspoonfuls of water. Carefully knead the crop until softened. In an hour or two give a teaspoonful of castor oil, or linseed oil (raw) will answer; knead again. Shut the chicken up and leave water for it, keeping all kinds of food from it. Next day, if crop is becoming empty, feed some soft feed with a little grease in it. In a few days it will be well. For young chickens about half the amount.

In many cases, however, it will be practicable to wash the stuff out of the crop. This can be done with a fountain syringe, using warm water or suds, and kneading the crop until the contents are softened and washed out.

A TIDY SUM FOR A GOOD FLOCK

A Farmer correspondent sends the following account of the extra good returns received from a flock of 130 hens, property of a young lady poultrywoman.

During last year 1490 5-6 dozen eggs were produced, which sold for \$384.87. The sales of poultry amounted to \$94.62, making the total receipts \$479.49. The feed bill was \$220.13, leaving \$259.36 net profit, or practically \$2 per hen. Miss Warren did all the work herself, hatching all chicks by hen power. The eggs are sent to Boston to a retail dealer. No breeding stock was sold nor eggs for extra prices. Dry feeding is practiced after the Gowell formula.

This record is an illustration of what a young lady armed with experience and progressive ideas can do with poultry. Some of our poultry keepers of the sterner sex will need to rise early to eclipse this record.—Maine Farmer.



A. C. W.

Stands for Purity and Goodness



In Poultry Foods. A. C. W. Egg Food contains 100 Lbs. to the sack, and this 100 lbs. contains a balanced grain ration based on the analysis of the egg, as follows:

Water	-	650	Grains
Albuminoids		80	"
Oil, Fat, Etc.		135	"
Mineral Matter		9	"
Sugar and Coloring Matter		26	"

The remaining 100 grains of the 1000 are used in the shell, which contains about 50 grains of pure uncombined lime, the remainder being carbonic acid, and water of crystalization, etc.

No Guess Work about A. C. W. Foods. Scientifically **correct** and practically **successful**.

The ideal food for the moulting period, as it contains **no dope or stimulants**, such as fenu greek, antimony or other nostrums.

Try a sack of A. C. W., the **"NATURAL FOOD."** At all dealers or direct from our factory.

Agricultural Chemical Works

Manufacturers of green bone for chicks, blood meal, etc.

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Hen Fruit Pays. If you want more, feed

Egg-More

Poultry need to be fed a scientifically balanced ration as much as any other stock. Egg-More is just the thing to mix with good grains to make the same a rightly balanced ration. It is highly nitrogenous, very rich in protein, will keep the hen in good health, sustain her system properly, and enable her to lay lots of eggs when they are scarce and high. Just a little fed daily with good grains, or even with bran, as directed with each package, will do it. It can be fed either dry or as a mash. It contains no cheap filler; the hens like it, they eat it, there is no waste.

Egg-More

Makes the cheapest Egg Food especially if you can buy your grains at home cheaper than to ship them in. Many so-called "poultry foods" and "egg-makers" are nothing but stimulants and not advisable to be fed regularly. Egg-More is not a strong tonic and stimulant, but merely contains enough condiments to give the food relish and keep the fowls in fine fettle. It will pay its cost many times over in the increased egg yield. 4-lb. package, 35 cents; 25-lb. pail, \$2.00; 50-lb. sack, \$3.75. If your dealer doesn't keep it, we will deliver a pail or sack freight prepaid by us.

West Coast Stock Food Co.

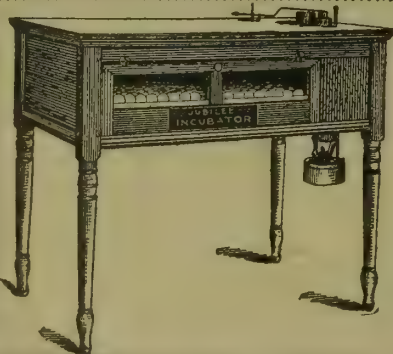
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Baby Chicks All Standard Breeds Eggs

We are the pioneer hatchers in this section. Chicks can be shipped 1,000 miles without loss. Our chicks are hatched in a 25,000-egg incubator and are strong and healthy. We make no extra charge for crating and can sell cheaper than any others in this line. Write us for prices on any Standard Breed in any quantity. Eggs from all breeds. Incubator Lots a specialty.

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THE POULTRY FRATERNITY

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The Jubilee

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They are the best on earth

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California Poultry Culture

Mrs. O. H. Burbridge

The latest book on poultry raising, especially adapted to the beginner, 117 pages with 87 illustrations. Paper, \$1; cloth, \$1.50. With Pacific Fancier one year, the best and biggest western magazine, \$1.25.

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When writing advertisers, mention Cultivator.

WHITE WYANDOTTES EXCLUSIVELY

Good, White, Typical Birds. Stock and Eggs For Sale.
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SHADE'S RHODE ISLAND REDS

The World's best layers. Our folder for '07 is ready. Drop a postal to
J. W. Shade San Bernardino, Cal.

POULTRY RAISING AS A BUSINESS.

Let every farmer carefully estimate the cost, in labor, of the things he produces. He need not put down the sums he expends out of his pocket, but simply endeavor to place a value upon the labor he himself bestows on every department of the farm and upon each crop. If he is a "business man," that is, if he knows what he is doing, by keeping an account of his operations, as every man who is in business does, or should do, he will have no difficulty in classifying the receipts and expenses, and especially the cost of labor. Next let him estimate the space or number of acres he has given to each one of the crops, as well as the plowing, harrowing, hauling, shipping, etc., and charge interest on the capital invested. After he has done this let him take up the poultry, place a value upon the meat and eggs, the cost of the feed, and the labor bestowed—the labor particularly—and then compare the results from the poultry with those from the larger stock and regular crops. He will find that if he had kept more hens, and given them only one-fourth of the care and labor bestowed on other departments of the farm, he would have had a larger balance in his favor.

By looking over statistics he will find that poultry produces more than sheep, and that our enormous wheat crop is not much greater in value, annually, than the products of fowls. With markets always ready, and with cash returns every month in the year from poultry and eggs, the farmer uses the most profitable sources of income as a "side business," and expends his energies over the large areas, being fortunate if he can show profit from each acre at the end of the year, while his fowls, on a few rods or acres, are giving him quick returns, both summer and winter, which he hardly recognizes as belonging to his farming operations. It is to be said in favor of the poultry industry that while panics and financial depressions have occurred several times in the history of this country, the markets have always accepted the supply of poultry and eggs offered and at better prices proportionately than were ruling for other farm products.—Michigan Farmer.

TABLE FOWLS.

Some of the strongest advocates of the keeping of breeds for producing choice table fowls maintain that a fowl should have yellow legs to find favor with buyers, which is partially true, but if some enterprising poultryman would make an attempt to produce choice fowls by using the Games or English breeds and building up a special market for them on quality, he would meet with excellent success, yet the English breeds and nearly all of the Games have legs other than yellow. Where the mistake is made is in the endeavor to select a breed that will prove good layers and also possess all the desirable qualities to a certain extent, yet such breeds as the Games do not rank as the best layers. There will never be a reputation gained by any farmer for extra choice table birds until he is willing to expect fewer eggs from such. What we mean by table fowls are those better than the ordinary market poultry. There is an opening for producing something extra choice, and the prices will be easily secured for such stock on the stalls.—Colman's Rural.

VARY THE FOOD.

Corn and cornmeal are deficient in some respects as egg-producing food. The most difficult work performed by hens that produce eggs is the manufacture of the albumen, or white of the eggs.

The yolk is composed mostly of the elements of food that produce fat, being known as the carbonaceous elements.

In wheat and corn the carbonaceous materials are very abundant, but the substance from which the albumen is derived is lacking in proportion to the yolk-producing materials. For this reason the feeding of fowls on nothing but grain is not conducive to egg-production. The food should, therefore, be varied, lean meat, linseed meal, cut bone and finely-cut clover hay (scaled) to be given in addition to grain. Lime and other mineral elements are also derived from the foods consumed.

POULTRY SUPPLIES

Newest, finest largest, and most central store. Prices the very lowest. Come and see.

Pacific Incubator Co.

707 So. Spring St.
Los Angeles

ORPINGTON RESERVATION

ROSS & TATE,
ALTADENA, CAL.
BUFF. WHITE. BLACK
ORPINGTONS.

Cockerels Pullets Trios
FOR SALE NOW

Visitors always welcome. Come see an up-to-date poultry plant. Take car to Altadena, go two blocks north, one block east of Altadena postoffice, or send 2c stamp for illustrated catalogue. It will bring the reservation to you.

Spargur's Trap-Nested White Leghorns

Laying Pullets six and seven months old from above hens, at \$15.00 per dozen. Also I. R. Ducks and Drakes at \$9.00 per dozen.

H. G. Spargur, Soquel, Cal.

WHITE WYANDOTTES THAT WIN AND LAY

\$15.00 and Up Per Dozen

Mammoth Bronze Turkeys Reasonable. Lakenelders, per pair, \$8.00; trio, \$10.00.

MRS. C. D. HUBBARD, BOX 282, SAN FERNANDO, CAL.

BARRED ROCKS

EXCLUSIVELY

Send for Sixteen-Page 1906 Catalogue

H. R. CAMPBELL
BOX O PETALUMA, CAL.

Baldwin's White Leghorns

Fine youngsters at reasonable rates. Good older stock cheap to make room. Full description of stock and price list mailed free on application.

Frank E. Baldwin

46 Washington Ave. San Jose, Cal.

White Wyandottes Hubbard Stock

Baby Chick, \$2.25 dozen. Eggs half price, \$1 per 15, \$5 per 100. January pullets laying when 17 weeks old. **CANNON POULTRY COMPANY**
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WHITE, BUFF COLUMBIAN WYANDOTTES

And Golden Sebright Bantams, prize winners. Stock and Eggs in season
M. E. Dillingham, Box 67 San Gabriel, Cal.

Irrigation and Forestry

FARM DRAINAGE.

WE have no means of knowing to what extent underdraining is being practiced by the farmers of this State, but from the fact that it is very seldom mentioned in the agricultural press of the State and almost never made a topic of discussion at farmers' institutes, we infer that there is very little of it. Nevertheless, we are sure that drainage would be profitable on portions of multitudes of farms in those portions of the State in which the rainfall is sufficient to prevent any alkali problem from arising, while in the irrigated districts draining is already a vital necessity. When drainage on a large scale is undertaken the employment of competent engineers is a matter of course and no suggestions as to methods are needed, but in non-irrigated districts the drainage operations will usually consist merely of relieving some depressed portion of a farm from its surplus water and turning it into the natural drainage of the country. In such cases the farmer is likely to be his own engineer and contractor, and until he has learned by costly experience how not to do it he is likely to make a pretty bad job of it. And we are inclined to believe from personal experience that there is more danger of bad work in laying tile than in getting a theoretically true grade. Almost any farmer with an ordinary level—attached to a twelve or sixteen-foot "straight edge"—best—can determine the fall between inlet and outlet for short distances and make some convenient device which will enable him to make the bottom of the ditch on a true grade. The trouble begins when one commences to lay the tile over ground of uneven texture, such as is likely to be found in draining swampy land. From motives of economy the smallest tile adequate for the service will be used and if it settles seriously in some places, while remaining stationary in others, the work will be lost, as silt will deposit in the depressions and the drainage will be stopped. An excellent bulletin of the Wisconsin Experiment Station says: "There are various ways of meeting the difficulty of laying tile through beds of quicksand. One is to extend the tile into the wet area only a few feet at first, and extend it a few more until firm ground is reached. Another way is to support the tile with boards." The same methods would be effective through pockets of peaty or other soft soil. When the tile is laid the problem is to keep the silt out of it. This must be thought of in laying the tile and the ends so joined as to make the tightest possible joints. But the great trouble is at the inlet. About the only way to protect an inlet under firm ground is to surround it with a quantity of small stones—probably a load or more—that all the silt is bound to be deposited before reaching the tile. In the West, where we have so many burrowing rodents, it is necessary to protect the outlet in the same manner or you do not know what you will get into your drain. In any country of rainless summers it is almost useless to lay drains less than three feet deep, so as to be out of the reach of the roots of most cultivated plants. As the soil gets dry the plants hunt for water, and while the small roots which enter the drains die with the plant, they are liable to form the nucleus of a bad

clog. It seems useless to lay tile drains within reach of the roots of trees, for they are almost certain to make trouble. All attempts at sub-irrigation of orchards by means of pipes with orifices seem to have failed from this cause.—E. F. Adams in Chronicle.

FOREST TAXATION.

Taxation is a science in itself, and far too little understood. Its shiftings and incidents lead at times to remarkable results often undreamed of in the philosophy of the authors of the legislation.

In his book, "The Study of Sociology," Mr. Herbert Spencer gives an interesting illustration of the way in which things social and economic act by contraries. He describes the efforts of a novice who, in attempting to hammer out a metallic plate, applies his tool to the salient parts and beats down the places which, to his eye, particularly need to be beaten down. The result, however, is that, before he has proceeded far, the metal has assumed shapes fearful and wonderful to behold, and its last state is, by far, worse than its first.

Mr. Spencer gives this as an illustration of the abortive consequences which usually follow unscientific attempts to effect social and economic results.

History abounds with illustrations of boomerang legislation and administration. In France, under the old regime, experiments in taxation were made which, it is to be hoped, will never be repeated. Taxes were laid on windows, with the result that, to escape them, people boarded up their windows and sat in the dark. Salt was taxed until abstinence from salt menaced the health of the people. In Egypt, date trees were once taxed until the people cut down their trees.

Through discouraging production and possession, to the extent, at times, of actually taxing things out of existence, the enginery of taxation, nominally employed for public ends, has often proved a fearful weapon for social mischief.

Studies, within the last quarter century, on this subject should, by this time, have begun to bear fruit. Much, however, remains to be accomplished, as is proved by the existing condition of forest taxation in the various States. Owners, willing and even anxious to retain their forests, are so burdened by onerous taxes as to be driven to cut the forests and dispose of the timber in sheer self-defense. That this process is socially suicidal should be evident without argument. It continues, nevertheless. Friends of the forests should take a strong stand against taxation which works such havoc.—Forestry and Irrigation.

Timber owners and manufacturers will be interested in the results of the detailed studies of commercial timber trees which the Forest Service of the United States Department of Agriculture is making. These studies are not confined exclusively to the well-known trees of recognized value, but, owing to the rapid decrease in the supply of our valuable woods, include those cheaper woods whose properties are imperfectly known.

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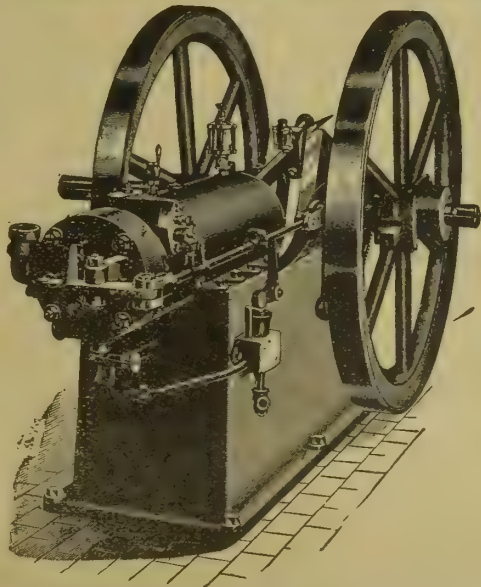
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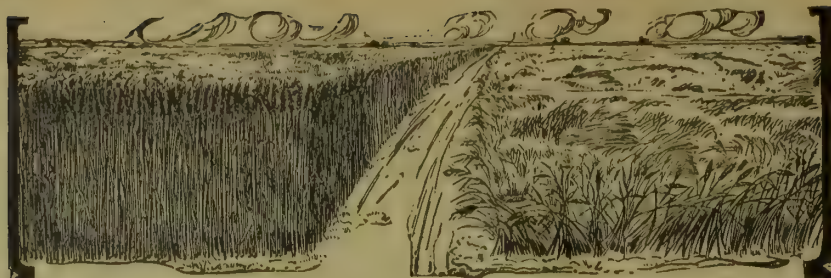
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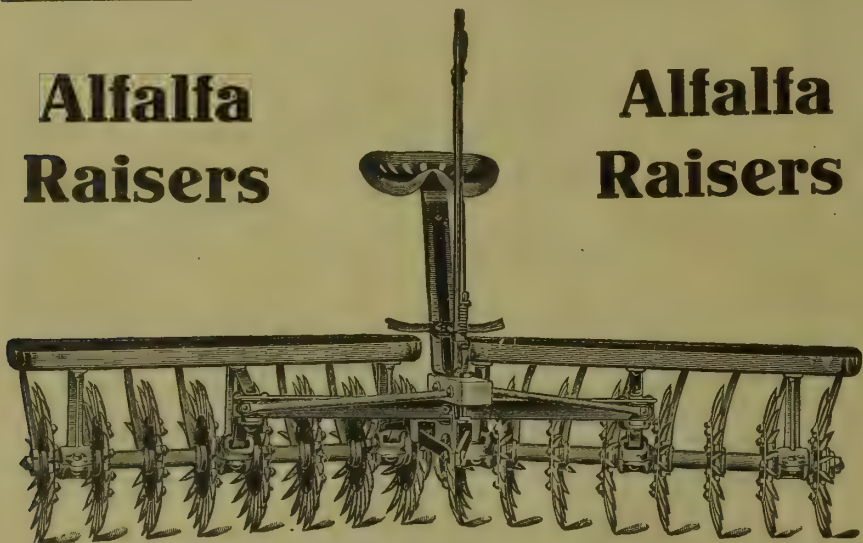
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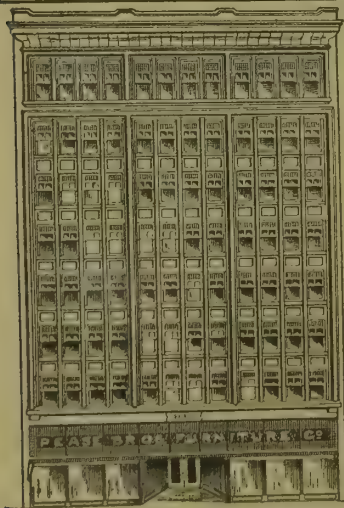
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Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Unfermented Grape Juice.

Please let me know what is the best method of putting up unfermented grape juice?—F. P. S., San Bernardino.

See Mr. Mill's article on page 244 of this issue.

Keep off Suckers.

In the Cultivator of Aug. 15th, page 149, you say "many of trees and shrubs throw out suckers in early summer, by cutting them off much of sap needed elsewhere by the trees will be saved." Does this advice about suckers apply to pear trees which have just been relieved of fruit?—S. S.

We surely would keep off all water sprouts or suckers from all trees. They are of no value and take sap which should go into wood and fruit buds. They should be kept off early in season to save the summer growth.

Cow Peas—Artichokes.

Are there any cow peas grown in California? Where may I get seed? Will artichokes do well in this part of the State?—J. H. W., Tulare.

Cow peas are not grown to any extent in California. They were tried for green manuring but as they would not grow thrifty through the cooler season they were discarded for the far more profitable vetch and Canadian pea. We think seed houses advertising in Cultivator can supply you with the seed.

If by artichokes you mean the tuber-Jerusalem artichokes, we do not question but they will do well with you. As to the Globe artichoke, of which the edible part are portions of the flower bud, will probably do well, for so far as we know it is not exacting as to climatic conditions.

Mildew.

I am sending you a bunch of Thompson's seedless grapes that are affected by something. Can you tell me what is the matter? Some vines have runners with healthy bunches. Second crop Tokay and other grapes are also affected.—C. M. S., Willows.

The grapes are affected with mildew and are past saving for this crop. Another year sulphur heavily under vines early in season.

Budding.

I would like to get some information concerning the working over of fairly large loquat trees. Would you bud or graft and what method and time? Also would like to know where I can get a good standard work on budding and grafting of citrus and walnuts?—C. S. K.

Loquats can be budded while growing and full of sap. Write Department of Agriculture at Washington for Nut Culture; also to John Isaac, State Horticultural Commissioner, office, Sacramento, Cal., for Citrus in California. Also Teague's nursery, San Dimas, for "Citrus Fruits."

Screen.

I am wishing to plant something between the house and barn for the purpose of shutting out the view. What tree or plant will make a nice fence? We want it to grow much higher than a fence would be and something that will be evergreen. Some one suggested pepper trees planted closely together and keep them trimmed. What do you suggest? We want something that will grow quickly and

not exhaust the soil.—Mrs. A. Nordhoff.

Giant bamboo is fine. A high trellis with Concord grapes, or, if in hurry, Australian pea vine or morning glory or other quick growing vines. The pepper suggestion is good but we would prefer the others, especially the bamboo for it makes a beautiful screen.

Mildew—Aphis.

I enclose leaves of rose bushes. have several varieties of choice climbers and the new growth is worse with this mildew, or whatever it is. Early in the season they were badly covered with a little green louse. I washed them well in soap suds. Have seen none of the lice for some time now, but the leaves continue to look like the enclosed.—A. T.

They are badly afflicted with mildew. Sulphur is a remedy, but as good as Bordeaux mixture. Apply early in season. Also keep off aphids as fast as they appear with strong suds.

Address.

Will you kindly give me the address of the A. I. Root Co., publishers of Gleanings in Bee Culture?—J. W. Kern City.

Medina, Ohio.

Chrysanthemums.

Please give me a few suggestions as to the proper care of chrysanthemums now. What shoots should be nipped off and do they need much water?—E. McG., Watsonville.

We will have an article in a short time on chrysanthemum culture. If you wish large flowers remove weak and small buds. If you want very large, fine flowers remove fast as formed except crown buds. Dig thoroughly, also fertilize to size.

Milk Goats.

Correspondents continually write "Where can I get information about milk goats." Any subscriber who knows them, or knows where such can be had, will confer a favor by writing.

Nut Buyer.

Will you kindly state through columns of the Cultivator a company buying almonds and other nuts in Los Angeles?—L. J., Selinas.

Percy R. Wilding Co., 307 Third Ave., Los Angeles.

Corn Husks.

Will you please inform me where I can dispose of corn husks? Please give me the address of some one who makes tamales.—E. E. Y., Corning.

Write Simon Levi Commission, Los Angeles.

Treatment of Wood.

I have been informed that there is a process by which the willow can be treated which renders it very serviceable for vineyard stakes—in fact as good as redwood. Is this a fact? If so, give me through the columns of your valuable periodical, the details of the treatment as I have 130 acres to stake this coming winter. Is there any difference in the durability of a willow stake cut during the winter than cut during the summer.—W. A. W., Woodbridge.

We do not think there is any simple process by which green stakes can be treated. The railroad plan of treating ties with creosote and creosol

compounds involves expensive plant. Any subscriber can send in suggestions to enquirer we will be glad to publish. In general, greater durability results from cutting when sap is out of the tree.

A HONEY-BEARING EUCALYPT.

James Brogan, of Attunga, Australia, in a plea for the preservation of "yellow-box" (*Eucalyptus melliodora*) from the ringbarker, draws attention to the especial value of this variety of number tree for honey production. From his experience, the honey harvested by bees from any given area of "yellow-box" is of greater monetary value than the wool that could be raised from the grass on the same area. There are seventy acres of this variety of tree on his own place, and in some seasons he has obtained more value in honey than if the area had been cropped with good wheat at a fair price.

As a useful timber "Yellow-box" stands in the ground twice as long as ordinary box, and should be very valuable for mining timbers, as nearly every tree about would make lengths suitable for mining requirements. This tree has been grown but sparingly in California, though it seems to do very well. As few planters have set out plantations for other than fuel purposes this great family of trees has never been fairly or sufficiently tested. —Condado Times.

THINKS THE INDEX OF VALUE.

The Cultivator has remarked before that it appreciates criticism and favorable comment. They both help to make a more valued paper. They show wherein we fail and should make a change or wherein we are doing all right and may do better. A year ago letter came from Santa Ana with criticism and request for an addition to the Cultivator to make it more valuable. Now comes the following appreciation:

Something like a year or more ago I asked if we couldn't have a table of contents in our much valued agricultural magazine, The California Cultivator. This year there has appeared a table of contents covering every article that has appeared in the Cultivator from January 1st to July 1st 1907, which has been a great comfort to me. So many, many times I've wanted to refer to something I had read and with that splendid table of contents I could find the desired article in a few minutes, which would, without the table of contents, have taken hours to find. I wish, for one, to thank the Cultivator for that most acceptably convenient addition to its pages. I hope his will be added every month. —L. A. MERIGOLD, Santa Ana.

A BIG "EGG."

The biggest egg ever laid on the Cultivator desk was gathered last week. It was no ostrich, either, though it measured 24 inches in circumference (26 inches, the largest egg) and weighed nearly four pounds. It was no pullet's egg. It was "laid" by a grower at Santa Paula, Mr. C. H. Thordon, and is one of the finest fruit egg plants we ever saw. It was indeed too fine a specimen to cut so it was taken to the Chamber of Commerce where it is now on exhibition.

BEST EVER.

Please discontinue sending the paper as I am leaving this country very early. I must congratulate you on your valuable paper. I consider it the best agricultural paper I ever had the pleasure of reading. —G. A. McCarthy, Los Angeles, Cal.

EMERGENCY COOLING.

It sometimes happens on warm afternoons that the supply of ice fails and the butter softens. Try this method of keeping it hard: Place a large earthenware bowl on the kitchen table, and in it place a small bowl upside down. On this inverted bowl put the butter dish containing sufficient butter for the next meal, wrapped in oil paper. Over this spread a clean napkin, covering the small bowl and the edges resting on the bottom of the bowl with fresh cold water up to the level of the butter plate. Put a heavy towel over the large bowl with the ends wrapped around it. Two hours later you may remove the towel and the napkin (the latter now completely saturated with water), and the butter will be firm and hard. The napkin acts as a wick, and brings the cold water up to the butter, chilling and hardening it. —Woman's Home Companion.

DAIRY NOTES.

Your well bred cow if kept in good condition will respond to feed in giving milk. It is well known that certain foods are milk producers.

On a pasture of green grass the flow will continue much longer than on hay, hence it becomes necessary as the pastures dry up to supply that which most nearly takes the place of green grass. Those fortunate enough to be located near a sugar factory can easily obtain a succulent food at comparatively slight cost.

A prominent dairyman who, if possible, feeds pulp the year around, makes the statement that "sugar beet pulp is the mainstay of the dairy business."

By proper feeding it is true that cows can be kept milking profitably during a longer period than otherwise.

The most profitable milch cow is the one that comes the nearest to milking the year around with only the proper intervals before again becoming fresh. —H. J.

"ENTOMOLOGY IN OUTLINE."

I want to especially recommend the practical treatise relating to insects, beneficial and injurious, published, under the authority of the Horticultural Commission, by John Isaac. The work was incorporated with the annual report of the commissioner, but is also published separately, in pamphlet form, and may be had by applying to the Secretary at Sacramento. Mr. Isaac has a most happy way of describing briefly the most important points on this most important subject. Every grower is fortunate who secures a copy. —Leonard Coates, Morganhill.

IT'S PENNY WISE.

Policy to set out a good tree, costing good money and then let the sun burn the bark or the rabbits gnaw it when for \$1.00 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Manufacturing Company, 1380 Willow Street, Los Angeles.

A GREAT MANY HELPFUL THINGS.

I wish to express my appreciation of your paper. As an amateur farmer I find a great many helpful things in it. —H. R. Hitchcock, Santa Barbara.

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The Cultivator is a valuable friend to the rancher. —J. C. Ellis, Fresno,

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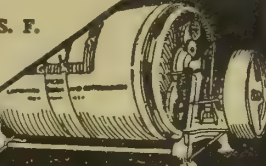
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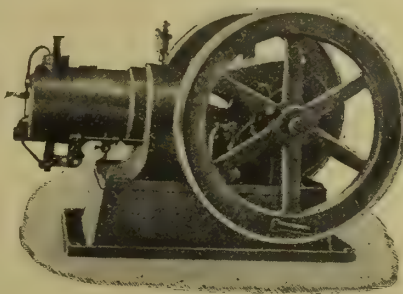
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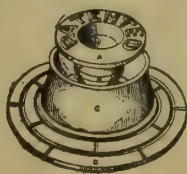
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THE CHANGE.

Before she went to boardin' school she useter romp an' play, She druv the cows from the field an' helped take in the hay, But she don't do that any more, because of this, you see— She went away as Mary Jane an' came back Jeanne Marie.

She uester wear made-over clothes, an' always with a smile, But now her dresses every one must be the latest style. She don't ride bareback any more, nor climb the apple tree— She went away as Mary Jane, but come back Jeanne Marie.

Her hair is all in crinkles now—she calls 'em Marshal waves; She's up in all the etiquette, real stylish she behaves. Her ma and me are mighty proud o' all she's learned—but gee, We sometimes wish for Mary Jane instid o' Jeanne Marie! —Mrs. Elsie Duncan Yale in Woman's Home Companion.

BY THE SEA.

Written for the Cultivator by Julia Hughes Persing.

THE fisherman were hauling in the seine. It was a foggy morning, the mist falling like fine rain. The men worked steadily, silently. They pulled the tangled seaweed from the ropes and waded out with bare feet to draw the seine safely through the larger breakers. In the trail of the net still leaped and played the sportive sardines which had escaped from the meshes and now glistened like bits of silver on the breaking water.

Around the men stood a number of persons, watching with interest the swift sorting of the fish. Barefoot boys, with pails or baskets, darted quickly amid the group on the alert for all rejected fish.

Over the waves came a dark line of birds—the sea gulls, watching for their prey.

Down the steps of the large hotel on the bluff came, leisurely, a young woman with an older man at her side shielding her from the mist by his carefully held umbrella.

"Let us watch the fishermen," she said. As they neared the men, she stopped for an instant, her face pale, her eyes frightened. Her companion, unnoting, pointed out the baskets of the cherished pompho, for which the fishermen toiled so patiently.

At the left of the little group stood a young man with clear high forehead and clean cut face. Standing erect, with head thrown back, his face, too, grown pale—he stood looking straight at the approaching pair.

The young woman shivered as though from cold.

"Why, Enid!" said her companion, noting for the first her agitation. "Are you ill?" "Shall we go back to the hotel?"

"No," striving for self-control. "I shall be all right in a moment. But—well—" turning helplessly towards him. Seeing his grave face, she suddenly grew calmer and her voice quiet.

"Herbert, I cannot explain now. But I used to know that young man over there. May I speak with him a moment? I shall not detain you long."

"Certainly, Enid," he replied, courteously, "I shall await you at the turn," and raising his hat, though with a look of pain on his face and a keen penetrating glance at the younger man—he passed on ahead.

Nervously Enid Temple turned towards the eyes so steadily observing

her. Their owner came at once in response to her gesture, but waited for her to speak.

"A great wrong has been done you, Tom," she said at last. It was not what she meant to say.

"Of what use to bring up the past?" he asked quietly, as they moved out of the hearing of others.

"But they told me you were dead!"

"Who told you?"

"My father," hesitatingly, at first, then bitterly. "He has ruined our lives."

"Enid," said the young man, sternly, "Did you not send that last message?" He peered eagerly into the fair face before him.

"He told me you wished never to see me again, and that you wanted to marry that rich old lawyer."

"Poor papa!" sobbed the girl. "Oh, Tom! he is dead now. He must have meant well, but how different it all might have been!"

Tom looked straight towards the turn. "And that man awaiting you? Is he the old lawyer?"

"Yes."

"And—?"

"And my husband," she said slowly.

The silence hung heavy between them, frightened by memories of the past and for the future—fears.

All had been explained. There was nothing more to be said.

The sun broke through the fog, the mists seemed to lift and clear away as the sunshine kissed the rippling water and glanced back from shore to sea.

So broke, gradually, the clouds on the young man's brow. Somehow the sight of the tall man waiting at the turn beyond them, the man with many silver glints in his hair, stirred through his being like a refiner's touch.

How easily he could wreck that man's happiness and bring discord into his life! It was a noble, useful life of which he had heard much. Should he so use his power over this fair woman at his side?

Self receded within him, ashamed of the bare thought. And a chivalry, born of his best and highest nature, pulsed through his being and shone now from his clear eyes.

"Well," he said, easily, and smiling as he spoke, "the fates played against us, Enid, but we can still be friends and believe it was all for the best. You have a husband of whom you ought to be proud. I have heard him spoken of in the highest terms. He is the soul of honor. And as for myself—well, over beyond the bay there lives the dearest of girls. Can you not congratulate me in advance?"

"Are you really to be married?" asked Enid Temple, her grieved, hurt look blending into great surprise.

"You see we can smile at these tricks of fate. Our troubles are much like those of our childhood, terrible at the time, but easily forgotten. Now will you take me to your husband? I should feel honored to meet him."

Almost bewildered Enid Temple led the way to her husband, looking at him as in a new light.

She noted as for the first how firm were his eyes when the pained look vanished from their dark depths and his face and manner responded to Tom's cordial, straight-forward greeting. The two men talked easily, while Enid listened, making involuntary comparisons in her heart, which surprised herself. When, after a little, Tom left them and they wended their

way towards the hotel. Lawyer Temple asked no questions. His deep forebodings had fled. He drew his wife's hand within his arm and they walked silently. And when at steps he paused a moment and looked earnestly into the face he loved—was raised to his, clear and shining. And he was content.

BAKED CANNED PEARS.

Not many housewives know how delicious are baked canned pears, now during pear season a hint concerning them is not out of place.

Fill a bake pan full, (a two-quart glass jar holds eleven medium sized ones), sprinkle with half a cup sugar and fill in water until the pears are more than half covered. Boil until tender then set on top of stove a moment to let the syrup come to a brisk boil and put into jars. The pears are too large to slip easily cut in half, after baking.

After canning one jar the correct amount of syrup can be estimated well as the number of pears to a jar. If the syrup runs a little short at first quickly boil the new amount, keeping the jar covered the meantime.

Besides the change from the old way and the delicious flavor of the new the baking is a time and fuel saving for one can be baking them in the oven as well as boiling others on the stove in the regular way; when it comes time to eat them, a satisfied housewife will almost wonder that she had canned them all the while. —Elizabeth Clark, Poway.

ICE BOX.

Across one end of a small washroom off from the kitchen, I had an ice box built of matched lumber, a width of the room, eight feet, extending into the room four feet high, six feet. Inside of this is another box four inches smaller every way and built the same except space for two doors in front, and door top to put in ice. All spaces filled with sawdust. Across the box, six feet from top, slats are laid, upon which to place ice. A piece of the length of box, curved to catch the water from melted ice, is supported by wires just under slats. The slopes a little and water runs into a five-gallon jar under the lower door. The jar never runs over as we fill the water (which of course is saved for washing hands. A small pipe runs through to open air and a small piece of netting is tied over the end to exclude flies. I would not without my ice box for many years its cost, which is very little. I have all the milk, cream and butter I need and could put shelves in to hold more if necessary. It is so much easier to step out of the kitchen, to another room to get milk, than to go down cellar, and I have saved many miles of walking in the course of the summer.

In the question of expense in necessary food, meat stands high. Nearly all vegetable foods furnish more vital energy than meat for flour, corn meal are very much cheaper, and just as valuable. But, on the other hand, there are many people who do not thrive on such food and demand meat. Then, beside the cost of meat being so great, the amount of time spent in cooking many dishes involves much expense in fuel—roasting and boiling require hours. Another point is that in beef and fat in beef, mutton, etc., the head, feet and entrails in fowls, the consumer pays for much that is not eaten; also that the shrinkage, particularly in stewing and boiling, is considerable.

The Personal Neatness Club

INTEREST is increasing in our club. Let others increase it still more by sending in little hints, or big questions, for this is the department which depends entirely on the interest of the readers. One man, a horrid man, wrote last week that he had read the Personal Neatness Club department and liked it, and as it had invited queries "would we please tell him where he could buy automobiles." This so surprised me that I haven't gotten over it yet, for if there is anything which doesn't add to neatness, it's the chug wagon. The last ride I took I had eyes, ears, mouth and hair so filled with dust I haven't felt perfectly normal since.

But here is another man, an interloper, who breaks in with a suggestion to girls which almost borders on impertinence. But as he "Uncles" us we'll let him in if he won't come any more.

Look at what the horrid thing says:

Keep your Elbows Clean.

If that "Neatness Club" of yours amounts to anything, it had better take up a collection to buy soap for these girls with dirty elbows which are always protruding these days, and showing what I have maintained was common, every day dirt. My niece is shocked that I should dub "tan"—tan is stylish, you know,—with a name so plebian and common as "dirt."

I never admired this custom of 'peek-a-boo' elbows, but girls, if you must do it, for goodness sake keep your elbows clean. Not only wash clean but don't put down on dirty counters and other places. If you do, wear a corn plaster or something of that kind on your elbows.—Uncle Josh.

Well, that's pretty raw, but here's something more to our taste. From a girl friend with genuine, friendly hints.

Be Dainty and Neat.

The dainty girl has learned that it not only adds to her self respect and pleases her friends for her to dress tastefully and becomingly, but that it actually pays from a financial point of view. Clothes that are well cared for will last twice as long as those that are carelessly treated. Neglected clothing is always unattractive and even repulsive. Hats and dress cannot long be thrown around carelessly without giving strong evidence of such lack of care, and there is always a charm about the neatly dressed girl, no matter how cheap the material from which her clothes are made or how plain the styles adopted.

Everything depends upon how a woman dresses her neck, whether she looks well or not, and if a girl will study out the charming possibilities of odd pieces of lace and linen, she can have lovely neckwear without any expenditure of money, and the economical girl not only makes her own pretty stocks and ties but she learns how to launder them as well. Such articles can be washed as they will lose none of their beauty if they are put to soak over night in a warm earline suds, as the longer they remain in the suds the less rubbing they will require, and anything that needs rubbing is a saving to the fabric, and fine handkerchiefs can be kept clean with very little rubbing or washing in the same way.

The woman who always dresses neatly at home is more likely to re-

tain the respect of her family and friends than one who is careless and neglectful. To be neatly and becomingly dressed is far more a matter of care than money, for a girl often appears as well dressed as her neighbor who spends twice the amount of money on her output in clothing, because one cares for her clothes while the other neglects them. It is said that neatness is one of the most attractive of feminine qualities to a man, but that it is also one of the rarest.—A. M. H.

That's a good letter. I hope it will inspire some of our girl friends with a determination to be neater in her dress. A stitch in time or a little gasoline or cholorform to remove spots is so easy, yet mean so much.

At first I wished A. M. H. had left off that last word. Is it a fact that neatness is one of the rarest of feminine attractions? At first I said no, but I don't know but the statement is about correct. Time without number I have seen girls approaching who were attired in a stunning costume, big picture hat, ostrich feather and all, yet on closer approach the shoddy becomes apparent. Hair carelessly combed, ribbons flashy, but soiled, and other revelations of character are thus shown to the world.

Personal beauty, that is, fair complexion, regular features, perfect form, all may not command; but that greater attraction of being becomingly attired, no matter how simple, together with a pure mind may be possessed by all. Such possession gives attractiveness and power.

Toilet Soap.

Save all the small bits of toilet soap and when you have collected a nice quantity of the pieces, cover them with boiling water, then add a tablespoonful of borax and place on the back of the stove where the pieces will melt slowly. When all are dissolved, stir in enough ground oatmeal to make a stiff batter, then pour in a greased dish, and when it is cold cut into squares, and you will find no finer toilet soap than this, as the borax softens the water, and the oatmeal whitens the skin and is especially good for tan and surburns.

The best way to clean a hair brush is to use warm soapsuds with a little borax added, then rinse the bristles with tepid water and place with the bristles downward to dry.

Brass candlesticks or other articles of brass can be kept bright by rubbing with a paste made of rottenstone and turpentine.

Painted china trays can be kept clean by pouring warm water over them and then drying with a soft cloth; but the rubbing should be gentle as hard rubbing and soapsuds will soon ruin these pretty dishes and trays.

HELPFUL HINTS.

Do you know that a few drops of essence of sassafras will keep flies away?

That unused silver will keep bright if laid away in a box of flour?

That cloves or salt sprinkled on a pantry shelf will rid it of ants?

That you can make a faded dress perfectly white by washing it in boiling water?

That salt dissolved in alcohol will often remove grease spots from clothing?

That linen blinds can be cleaned by being laid flat and rubbed with powdered bath brick?

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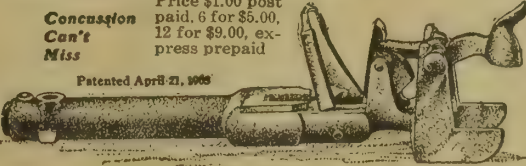
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BOOKS.

FREE—"THE POULTRY MANUAL," BY those high authorities, F. L. Sewell and Ida E. Tilson, profusely illustrated. Send us the names of twelve persons keeping any poultry, and we will send it to you absolutely free and postage prepaid. WEST COAST STOCK FOOD CO., 818 San Fernando St., Los Angeles, Cal.

A NORWAY TOWN WITHOUT TAXES.

"The town of Faleide, Norway, imposes no taxes on its lucky inhabitants," says the London, Eng., By-stander. During the last thirty years the authorities at Faleide have sold over \$5,000,000 worth of trees, and, by judicious replanting, have provided for a similar income every thirty years. In consequence of this source of commercial wealth, there are no taxes in Faleide, and local railways and telephones are free, as well as education and drinks—upon the King's birthday!"

How Utopian the suggestion, at first blush, of a "town without taxes!" Yet the explanation is simple. Instead of permitting all its forest lands to become private property, to be cut over, burned over and converted into a desert, this town has simply retained an area for its own use, and has administered the forests thereon in accordance with forestry principles. In consequence, the community enjoys a permanent income from a permanent estate; an income, furthermore, sufficiently large to render taxation unnecessary.

The Produce Markets

Los Angeles Markets

LOS ANGELES, Sept. 10, 1907.

Butter.

Butter remains firm at the prices quoted last week.

Creamery extra per roll.. .67 1/2
Creamery first.....60
Dairy.....55
Cooking.....25

Cheese.

Cal. Young America, per lb.....19
Hand.....20
California Anchor.....17
Cal 3-lb. hand.....20
Northern fresh.....17
Eastern.....18@19
Eastern.....21
Imported Swiss.....31
Tulare flats.....17

Eggs and Poultry.

A strong feeling predominates the egg market and prices rule strong at the following quotations:

The prices given are those of the commission man to the retailer.
Eggs local candled.....33@35
Eggs case count.....30@31
Fresh Eastern.....28
Eastern storage.....25

The following are average prices which dealers pay to producers for live weight.

Hens per lb.....14
Young roosters per lb.....14
Fryers.....15
Broilers per lb.....17
Old Roosters.....8
Turkeys.....17
Geese.....12
Ducks.....12
Squabs per doz.....1.75@2.00

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 lbs.....7 1/2@7 3/4
Prime steers.....4 1/2@4 3/4
Heifers.....3 1/2@4
Calves per lb.....5
Sheep, ewes, per head.....4.75@5.25
Lambs, per head.....4.00@4.50
Wethers.....5.50

Potatoes.

Potatoes are again firm this week. An advance is looked for before the close of the week. Prices quoted are these:

Highlands.....2.00
Early Rose.....2.00
White.....1.90@2.00
Local Burbanks.....1.85
Salinas.....2.40
Sweet potatoes per lb.....2 1/2@2 3/4

Onions.

Silverskins per ctl.....2.60
Australians.....2.00@2.25
Yellow Danvers.....2.40
Garlic.....7@8

Vegetables.

Beets per doz.....30@50
Bell peppers green lb.....3
Beans wax.....3@4
Beans Limas per lb.....3@4
Beans green.....1 1/2@2
Cabbage sack......75
Celery per doz.....30@60
Chili peppers green lb.....2 1/2@3
Cucumbers per 1-lb box.....15@25
Corn per box.....40@50
Cauliflower.....1.25
Carrots per doz.....30@40
Eggplant per ub.....3@4
Green onions doz bunches.....15@30
Lettuce per crate......75@1.00
Mushrooms per lb.....1.00
Pie Pumpkins......1 1/2
Peas sugar per lb.....4@5
Okra per lb......5@6
Rhubarb per box.....1.35@1.50
Radishes per doz.....10@20
Spinach per doz.....19 1/2@20
Summer squash crate......15
Turnips doz bunches.....25@30
Tomatoes ner box.....25@35
Water Cress per hundred......85

Citrus Fruits.

Valencias.....2.75@3.25
Seedlings.....1.75@2.25
Grapefruit seedless.....2.50@3.00
Grapefruit seedlings.....1.50@1.75
Lemons fancy.....3.00@3.50
Lemons choice.....1.50@2.00
Tangerines, halves.....1.50@1.75

Fresh Fruits.

Supply of fruit is good and prices fair. The tone of the market rather strong.
Apples Red Astrachans box.....1.00@1.25
Bellefleurs.....1.75
Gravenstein.....2.00@2.25
Crab apples.....1.00
Blackberries......10
Cantaloupes crates.....2.00
Casaba per crate.....1.60
Figs black per lb.....4@5

Figs white.....4@5
Grapes per 4 bskt crate.....1.30@2.25
Huckleberries lb......11
Logans.....12@15
Nectarines.....2.00@2.25
Pears.....2.25
Peaches per box.....80@1.25
Pomegranates box.....1.00
Raspberries.....12@15
Strawberries.....3@5
Watermelons per 100.....85@1.00

Dried Fruits.

There was a firmer tone to the dried fruit market, but not enough to warrant any change from the following prices:

Evap. apples fy per lb.....8 1/2@9
Apricots.....18@19
Peaches.....12@14
Pears.....12 1/2@13
Nectarines.....12@14
Prunes.....4@5 1/2
Plums.....11 1/2@12 1/2

Beans, Dried

There is no change to speak of in the quotations of last week.

Limas per ctl.....4.75@5.00
Pink No. 1.....3.25
Lady Washington.....3.25
Small White.....3.25@3.40
Black Eyes.....5.50@6.00
Garvanzas.....5.75@6.00
Lentils.....12 1/2@15

Honey

The prices we give are those at which the jobber sells to the grocer in small lots. The producer should take from this one cent a pound commission and freight to Los Angeles, and there will remain the net returns to him.

Extracted white.....6@8
Light Amber.....5@6
Comb, water white, 1-lb. fms.....12@15
Light Amber.....11@13

Nuts.

Prices at present ruling on walnuts are as follows:

Walnuts No. 1 S S.....13 1/2
Almonds per lb.....19@25
Peanuts, Virginia.....9
Peanuts California.....6@7
Walnuts, No. 1 S S.....14@15

Hay.

Barley No. 1.....14.00@15.00
Barley No. 2.....12.00@13.00
Alfalfa Northern per ton.....13@15
Alfalfa new local.....15.00@16.00
Plain oat No. 1 new.....12@13
Wheat No. 1.....13@15

Grain.

Purchasing prices f. o. b., Los Angeles are:

Wheat new per cwt.....1.70
Wheat, new, per cwt.....1.70@1.75
Wheat, Sonora.....1.52 1/2@1.57 1/2
Barley.....1.17 1/2@1.22 1/2
Corn Eastern sacked.....1.55

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn.....1.65
Shorts.....1.45
Bran.....1.30
Egyptian corn.....1.65
Oil cake meal.....2.50
Rolled Barley.....1.40
Rolled barley per ton.....25.00
Feed meal.....1.70
Kaffir Corn.....1.65

Farmers in Utah are renewing their grain land by growing alfalfa on them for three or four years and then plowing the ground and seeding to grain, which yields well for three or four years more. Land owners in the Sacramento valley can learn something from Utah if the evidence afforded by their own state does not prove convincing. Adding to the alfalfa dairy cows enough to eat it up, thus restoring the hay as well as the roots to the soil accelerates the process. This formula is as invariable as the multiplication table.—Sacramento Union.

Woodin & Little, one of the oldest and most reliable firms on the Pacific Coast, advertise their extensive San Francisco house in this issue. If any of our readers wish anything in the line of pumps, wind mills, gasoline engines, tanks, pipes or fittings, or anything along these lines, drop a letter or postal card to Woodin & Little, 534-536 Mission Street, San Francisco, and ask them to send you Catalogue A. This notice especially applies to all our readers in Northern and Central California, where freight rates permit especially low prices on all shipments from San Francisco.

San Francisco Markets

SAN FRANCISCO, Sept. 8th, 1907.

Butter.

Butter holds firm at the price quoted but the sale is slow. It is considered too high.

California extras per lb......31
California firsts......27 1/2
California seconds......18 1/2
California thirds......24 1/2

Cheese.

California Young American fy.....16 1/2
California flats fy......11
Eastern fancy......18 1/2
Oregon fancy......15 1/2

Eggs and Poultry.

The market has been quiet this week because the price has been considered too high. Few sales.

Fresh ranch eggs......37
Eggs first per doz......29
Eggs seconds per doz......22
Eggs thirds......19
Eastern selected......23

Hens per doz.....4.50@5.50
Hens large......6@7
Young roosters......7@8
Old roosters......4 1/2@5
Fryers per doz.....5.00@6.00
Broilers per doz.....3.50@4.50
Ducks young......4@5
Geese per pair.....1.75@2.00
Turkeys per lb.....18@21
Pigeons.....1.50@2.00

Live Stock.

Steers No. 1.....7 1/2@8
No. 1 cows and heifers.....6 1/2@7
Hogs 80 to 200 lbs.....7 1/2
Hogs 200 to 300 lbs.....7 1/2
Calves, per lb......3
Lambs, yearlings.....6@6 1/2
Wethers, No. 1.....5 1/2
Ewes, No. 1.....5

Potatoes

River whites......75@1.00
Early Rose.....1.00@1.10
Sweets......2@3

Vegetables.

Asparagus......5@7
Cucumbers per box.....35@50
Corn per sack.....2.00@2.75
Chili peppers per box......25@50
Bell peppers per box.....50@75
Egg plant per box.....25@1.00
Green peas per lb.....1 1/2@2 1/2
Squash per box.....35@50
Tomatoes California.....25@35
String beans......2@3
Wax beans......2 1/2@3 1/2
Garlic......2@3 1/2

Onions.

Onions Br Australia per ctl.....3.5
Onions new yellow.....2.25@2.50

Citrus Fruits.

Valencias.....2.00@4.00
Seedlings.....1.25@1.75
Grapefruit, seedless.....1.75@1.90
Limes.....4.50@5.00

Fresh Fruits.

There is a fairly active market on fresh fruits although nothing special. Prices have been governed by the demand. No radical changes are noted.

Apples Gravenstein.....1.00@1.50
Apples small stock.....40@75
Crab Apples.....75@1.25
Blackberries per chest.....3.00@4.50
Figs one layer......50@1.00
Figs two layers.....1.00@1.50
Grapes per crate......75@1.00
Melons per crate......60@1.00
Plums per box......50@1.00
Peaches per lb......5
Bartletts......75@1.00
Raspberries per chest.....10.00@12.00
Strawberries per chest.....8.00@11.00
Watermelons per doz.....1.00@2.25

Dried Fruits.

Apples (evap.).....7 1/2@9
Apricots per lb new......19
Figs white.....3 1/2@4 1/2
Prunes 4 sizes.....4@5 1/2
Peaches.....1@1 1/2
Pears.....5 1/2@11

Beans, Dried.

Pink.....2.65@2.75
Small white.....2.85@3.00
Black eyes.....3.75@4.00
Red kidneys.....3.25@3.50
Bayo.....3.25@3.50

Hops.

Hops, new, future delivery, per lb 9@11
Hops old fancy.....9 1/2@10
Hops old fancy.....7@8
Hops, common.....6@8

Nuts.

Almonds, new.....17 1/2@19 1/2
Peanuts, California.....5 1/2@6 1/2
Walnuts.....12@13

Honey

Clear white comb.....14@17
Amber.....12@15

Extracted... 7 1/2 @ 8
Bees wax No. 1 per lb... 26 @ 28

Hay.

The weekly trade circular of Scott & Magner, descriptive of the hay market, is as follows:

We have nothing particularly new to remark in relation to the existing situation in hay. Conditions remain just about the same as outlined in our last report. The main change to note is in the fact that the little shower that we had this week has developed a strong uneasiness on the part of all who are interested in hay. It may be that we will have a long spell of good weather before the first rains begin, but as there is no assurance of this, we are all uneasy about the hay that is out and unprotected. This feeling has caused an extra effort to be made all along the line, to endeavor to move the hay both into the warehouse and to boat and car for transportation. It has also caused the farmers to concede somewhat their asking prices where transportation is offered. The railroad companies have been furnishing a few more cars, but not enough to make much impression on the immense quantities of hay clamoring for transportation all along the railroad lines.

Alfalfa local 11.00 @ 13.00
Lame oat..... 15.00 @ 16.00
Wild oat..... 10.00 @ 14.00
Wheat No. 1 new..... 19.00 @ 20.00

Grain.

Regarding the grain situation the Chronicle says:

Operations in the local grain market were rather limited yesterday, but prices were strongly held and in some instances advanced. The upward tendency in the price on wheat has been steady for some little time and dealers are now looking for an increase on our. The flour from the north is slightly higher and the local product will doubtless be advanced within a few days. The advices from Chicago yesterday showed an undertone bullish in character.

Wheat No. 1..... 1.57 1/2 @ 1.60
Barley No. 1..... 1.32 1/2 @ 1.35
Corn small yellow..... 1.65 @ 1.67 1/2
Corn large yellow..... 1.50 @ 1.55
Oats white..... 1.45 @ 1.55
Oats red..... 1.65 @ 1.90

Feed Stuff.

Straw per ton..... 19.50 @ 22.50
Straw per bale..... 50 @ 90
Feed cornmeal per ton..... 33.50 @ 35.50
Cracked corn per ton..... 34.00 @ 36.00
Dl cake meal per ton..... 40.00 @ 41.50
Coconut cake, per ton..... 25.00 @ 26.00
Hidlings..... 27.50 @ 30.00

Citrus Market

LOS ANGELES, Sept. 9, 1907.

There has been a good demand for all first class grades of fruit. Lower grades easier and some lower. Generally the market has been steady. Weather has been cool and in most Eastern markets cloudy conditions have prevailed as a rule. Total shipments to Sunday reported as follows: Carloads, 23,809, of which 3204 were lemons. Last season to date there were shipped 25,326 carloads, of which 591 were lemons.

NEW YORK, Sept. 9th, 1907.

The market has been good for all uncry fruits. Prices as follows:

VALENCIAS—
ris xfy D M Ft Ex..... \$5.05
Hunter st ACG Ft Ex..... 3.15
loquet xfy Cal Cit U..... 4.70
ictory xc Cal Cit U..... 3.70
l Toro Cal Cit U..... 3.00
tag xfy ACG Ft Ex..... 4.50
ointer xc ACG Ft Ex..... 3.50
ointer xc ACG Ft Ex..... 3.60
hamrock fy Thomas Strain..... 5.10
lbion ch Thomas Strain..... 4.25
mbria st Thomas Strain..... 3.85
al. Beauty fy Worthley & Strong 4.20
lgnat (rawhide boxes) O Gr C A 7.00
lgnat xfy X O Gr C A..... 5.20
rade Mark st X O Gr C A..... 3.15
olonel xc O Gr C A..... 3.60

GRAPEFRUIT—
alfifornia Beauty..... 2.95
ntler..... 3.35
hoice..... 3.00
ancy (one-half)..... 2.40

PITTSBURG, Sept. 9th.

Firm prices on good stock. Weather cool and favorable.

VALENCIAS—

See us for Sanitary Milk Bottles. O. J. Weber Co., 555-557 S. Los Angeles street., Los Angeles.

Conqueror Ind Ft Co .. 4.20
Jasmine st D M Ft Ex Duarte... 4.15
LEMONS—
Liberty fy S T Ex Escondido.. 2.50
Escondido st S T Ex Escondido.. 1.95
Orange Glen st S T Ex Escondido .65
Orange Glen ch S T Ex Escondido 1.10
Escondido fy S T Ex Escondido 1.45

BOSTON, Sept. 9.—The market easier on large sizes. Weather favorable.

VALENCIAS—

G. Orchard Ind. Ft Co..... 4.75
Golden Rule xc Riv Ex Riverside 4.30
Choice ch S T Ex Rivera..... 3.20
Standard st S T Ex Rivera..... 3.10
Partridge xc Cal Cit U..... 2.90
Old Baldy xfy Cal Cit U..... 2.05
Lighthouse st Cal Cit U..... 1.40

ST. LOUIS, Sept. 9th.—The market is firm on good stock.

CLEVELAND, Sept. 9.—The market is steady and the weather is cold.

VALENCIAS—

Ibex S T Ft Ex Rivera.. 4.45
Standard st S T Ft Ex Rivera.... 3.85
LEMONS—
Extra Ch. ch CS Ft Ex Summerl 3.15
Crocker Sperry st CS Ft ExSum 2.60
Whittier xc S T Ft Ex Whittier.. 3.75
Pico st S T Ft Ex Whittier..... 3.30

CINCINNATI, Sept. 9.—The market is steady and weather warm.

VALENCIAS—

Greyhound ch S A Ex Pomona... 3.85
Messina lemons.. 3.40, 2.35, 3.60.

GOVERNMENT WORK FOR AGRICULTURE.

The government has been doing a great work for agriculture. In report of the Reclamation Service to January 1st it is stated that up to the time specified the government has dug 1267 miles of canals or nearly the distance from Washington to Omaha. Some of these canals carry whole rivers, like the Truckee river in Nevada and the North Platte in Wyoming. The tunnels excavated are 47 in number, and have an aggregate length of nine and one-half miles. The service has erected 94 large structures, including the great dams in Nevada and the Minidoka dam in Idaho 80 feet high and 650 feet long. It has completed 670 head-works, flumes, etc. It has built 376 miles of wagon road in mountainous country and into heretofore inaccessible regions. It has erected and in operation 727 miles of telephones. Its own cement mill has manufactured 70,000 barrels of cement and the purchased amount is 312,000 barrels. Its own saw mills have cut 3,036,000 feet B. M. of lumber and 6,540,000 feet have been purchased. The surveying parties of the service have completed topographic surveys covering 10,970 square miles, an area greater than the combined areas of Massachusetts and Rhode Island. The transit lines had a length of 18,900 linear miles, while the level lines run amount to 24,218 miles, or nearly sufficient to go around the earth.

The diamond drillings for dam sites and canals amount to 47,515 feet or more than 9 miles. Today the service owns and has at work 1154 horses and mules. It operates 9 locomotives, 223 cars and 23 miles or railroad, 39 stationary engines and steam engines. It has constructed and is operating 5 electric light plants. This work has been carried on with the following force: Classified Service, 380, including Washington office. Laborers directly employed by the government, 3500; laborers employed by contractors, 6100 or a total of all forces of 10,000. The expenditures

now total nearly \$1,000,000 per month. As a result of the operations of the Reclamation Service eight new towns have been established, 100 miles of branch railroads have been constructed, and 10,000 people have taken up their residence in the desert.

A FALSE SYSTEM OF EDUCATION.

"My department in the Woman's Home Companion, 'For the Girl Who Earns Her Own Living,' says Anna Steese Richardson in her September contribution, "brings to my desk from would-be wage earners hundreds of letters every month. Less than five per cent bear the postoffice stamp of large cities. About fifty per cent come from small cities, towns and hamlets, and contain inquiries about business colleges, training schools for various trades, and avenues of wage earning in larger cities. The remaining forty-five per cent come from farms and their burden is: 'I cannot stand the monotony of farm life, and in this small community there is absolutely no way in which I can earn enough money to escape.'

"Escape!" That is the war cry of the inexperienced, restless, intractable girl of today. She has vague ideas of what she is trying to escape, but generally speaking it is what she terms the monotony of a domestic existence, which is in reality her apprenticeship in the art of home making.

"This article is not intended as a reproach upon the girl herself, but rather upon the false system of education, the abnormal economic conditions which force her into such a position and such beliefs.

"Study the average household in cities, large and small, in county seats or in towns which can boast of unimportant industries giving employment to women. To what end is the girl given an education? Almost invariably to fill some position in the commercial or professional world. Statistics prove that comparatively few girls go beyond the grammar grades. At sixteen they graduate into a business college, shop, factory or office."

SOUR CLOVER IN ALFALFA.

Many queries are made this year as to "Sour Clover" which is somewhat of a pest in many alfalfa fields. Regarding this pest and its eradication, Prof. Wickson says:

"Melilotus alba has some favor in the Eastern States as a forage plant. It is also a good honey plant for bees, but stock will not eat it if they can find anything better, and in the alfalfa fields it is a great pest. It is, however, a biennial and not a perennial like alfalfa, and if one is careful not to allow it to go to seed it will disappear. In pastured alfalfa this means that all the Melilotus plants must be either cut below the root crown or pulled out when the ground is soft enough by irrigation to make it possible to pull out its long taproot.

"I do not know of any way to prevent selling foul seeds except the method which is now being applied by the United States Department of Agriculture, and that is to examine dealers' stock and to expose all dealers found to be carrying unclean seed."

. Washtucna, Washington, grain growers report that one-half of standing fields have been ruined by the storms.

GEOLOGIC WORK IN NATIONAL FORESTS.

The United States Geological Survey, in connection with its other work in the West, has undertaken to examine geologic conditions in the National forests. It has been the policy of the Government to encourage mining in the areas included in the National forests, but many fraudulent entries have been found, which cover non-mineral lands or deposits that by no possibility could be developed into paying mines, and it is clearly in the interest of legitimate mining enterprises to prevent "wildcat" mining companies from obtaining titles to the lands covered by such-claims.

The work of the Survey will be of practical value both to the Forest Service and to the miners, for the reports of the geologists will enable to Forester to make recommendations to the Commissioner of the General Land Office on the character of mineral locations. The policy of the Survey will be to require its geologists to assist in every way the claimant who is acting in good faith and to help the officers of the Forest Service in their task of protecting the mining industry and all other interests which benefit by the proper administration of the National forests.

TO DESTROY CACTUS.

Many farmers are clearing up cactus land in California and they are employing the old methods, cutting it off carrying it away and piling it.

A few dollars worth of white arsenic dissolved in boiling sal soda solution and made up to 20 gallons of water to one pound of arsenic and used as a spray will kill the cactus over a large area so that it will dry sufficiently to burn as readily as dry grass by fall. This has been practiced in many places and is a cheap and easy method of destroying this troublesome plant.

SIZED UP HIS FATHER.

While the mother and faithful old Ellen were away Jimmie and his father looked after themselves—Jimmie rather less than his father, says the Youth's Companion. As it was vacation, Jimmie got up when he chose, ate what he liked, amused himself in his own way and went to bed when he was sleepy, sometimes in his own bed, and his father never said a word.

Every morning when his father went to town he kissed Jimmie and said: "Be a good boy."

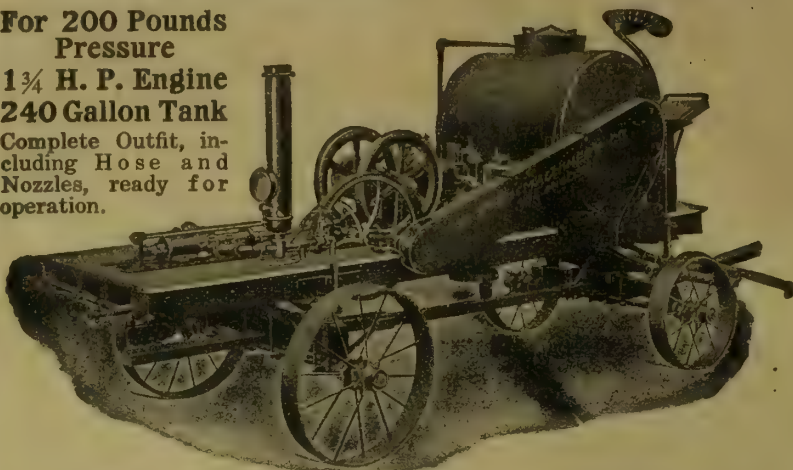
This wholly reasonable command was never accompanied by any don'ts. "Don't fight, don't tear your clothes, don't tease the cat"—it was too early to go in swimming—or "don't play on the railroad track." And Jimmie's joyful "Yes, daddy!" was invariably followed by a series of handsprings down the walk to the gate and back again by way of working off the overflow.

When his father came home at night he never asked Jimmie if he had been a good boy. He found a cleanish place to kiss, and ignored completely the rent in the corduroys or the bruise under the eye. Once, when the night was wet and both were feeling a little lonely, Jimmie, sitting close, showed his appreciation and understanding of such delicacy.

"I say, daddy," he whispered, "you make it awful easy to be good, I guess you were a pretty bad one, weren't you?"

Smith's Portable Power Sprayer

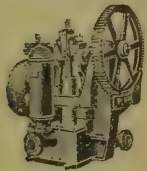
For 200 Pounds Pressure
1 3/4 H. P. Engine
240 Gallon Tank
Complete Outfit, including Hose and Nozzles, ready for operation.



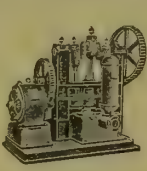
Powerful, well built, durable and efficient. Write for special circular and prices.

Large Variety of Hand Sprayers in Stock

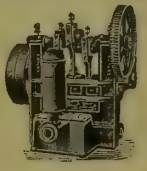
S. J. Smith Machinery Co. Power and Pumping Plants
212-214 So. Los Angeles St., Los Angeles, Cal.



TRIPLEX PUMPS



MOTOR DRIVEN



TRIPLEX PUMPS



MOTOR DRIVEN

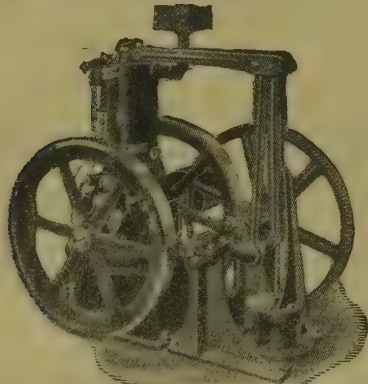


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PUMP HOUSE**
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San Francisco, Cal., U. S. A.



STOVER GASOLINE ENGINES



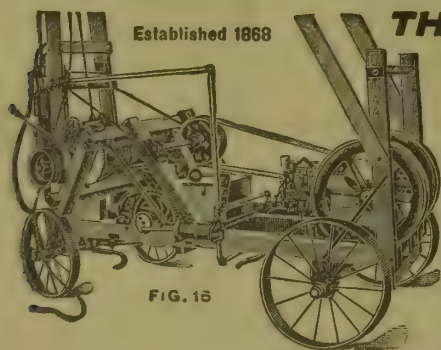
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Just the thing to run the feed cutter, the pump, the churn, the grinder, or anything on the ranch. It's well named

The Little Wonder

Write or call on

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602 No. Main St. Los Angeles, Cal



Established 1868

FIG. 15

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Chicago, Ill. Dallas, Tex.

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500,000 FEET OF WATER PIPE

All sizes, Galvanized and Black, slightly damaged.
Special Price While It Lasts. Phone or write.

ADAMS PIPE CO., 603 Grant Bldg., Los Angeles, Cal. Phones: Main 1917, Home 1917

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All the people using these machines are **thoroughly satisfied.**

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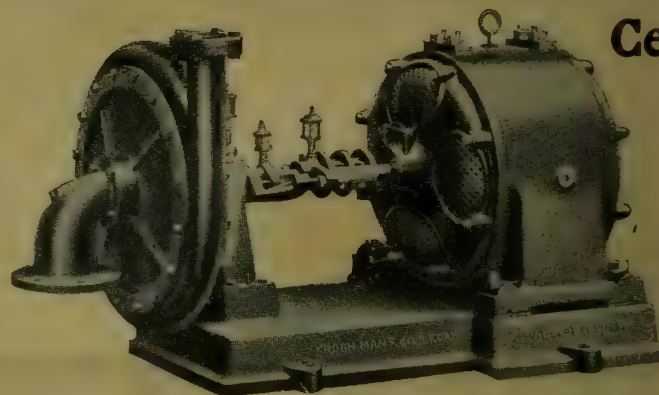
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If you have over 40 cows, you need a **Burrell-Lawrence-Kennedy Machine**

MORROW & SHELTON, Portland, Ore., Agents for Oregon, Washington and Idaho



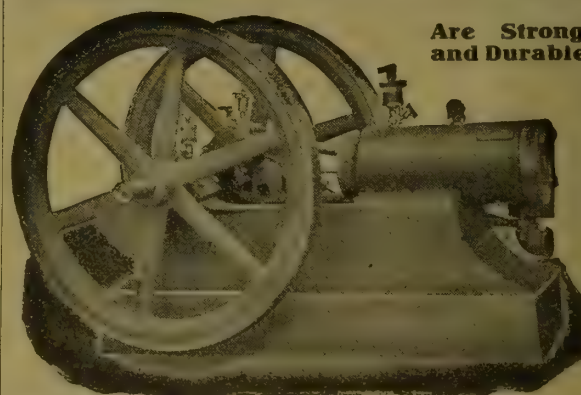
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Direct Connected or Belt Driven
Highest obtainable efficiency

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127 to 133 Beale Street
SAN FRANCISCO, CAL.

Send for New Catalogue No. 50 just issued.

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Fully Guaranteed in every Particular. We make complete Irrigation Outfits.

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553 S. Los Angeles St. Los Angeles



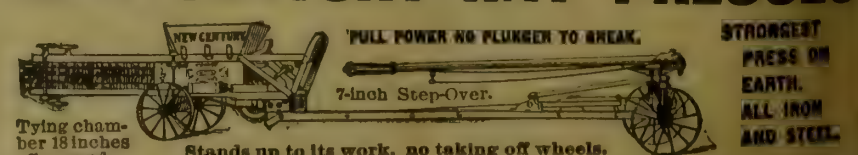
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The Highest Grade Made. Won First Prizes at Sacramento and Porterville Fairs. Large Stock always on hand. Send for Pump and Engine Catalogues.

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Two Second-Hand Presses For Sale at a Bargain

When writing advertisers, mention Cultivator.

California Cultivator

Los Angeles

September 19, 1907

San Francisco

The Raisin Festival at Fresno



Drying Raisins in the Vineyard.

Courtesy State Board of Trade

A STRIKING object met me the other morning as I stepped from the Southern Pacific train at Fresno. The gateway to town at Mariposa street near the depot was a magnificent archway of fruits. The base was of watermelons, loads of them, then above and spanning the street grapes in magnificent bunches. White grapes, blue grapes, red grapes and all great fine bunches. Some fastened to the top of archway, others pendant under it. More fronts had the same prodigal display of fruits and, of course, everywhere was bunting for a filler.

The inspiring cause of the festival was the making up of the National Irrigation Congress. To strangers brought to our gates by that great event were here with open eyes and, while a raisin or other festival may not be proof of the greatness of any section, it may be the drawing card which will attract the people to investigate its merits. I believe such was the case at Fresno. It was not my privilege to remain through the festival, in fact, saw only its beginning, but many wondering people, never before in a raisin section, were all attention and gathering information of the land which under a San Joaquin valley sun and the waters of the Sierra Nevada mountains bring forth wonderful grapes. The

finest raisins in the world. And in quantity forty thousand tons. "Yes, and then some," says an enthusiastic resident. Lest it be imagined that Fresno's greatness all, from foundation to top is constructed of raisins, let me quote:

"When we speak of alfalfa the subject of dairying also crops up, because Fresno county is rapidly becoming a great dairying center. The profits are substantial and unlike many other branches of farming it has a regular steady monthly income from the sale of butter fat, which is a great boon to the man of limited means.

"Thousands of head of poor cattle are shipped into Fresno county from Arizona, New Mexico and Southern districts to be fattened, and after two months' browsing on our splendid pastures increase in value from \$20 to \$30 per head."

About 350,000 acres are annually planted in this county to wheat and barley. Then there's honey and watermelons and lumber, garden stuff, all kinds of deciduous fruits. Yes, and citrus fruits. Now I touch a subject which makes the foothillers along the eastern edge swell up and get chesty. I have never been along the foothills in this country, but when oranges are mentioned in the presence of a believer in Fresno, he has that far-away look which says that he has knowledge which would astonish the world if it should all

be made known. But seriously, there are fine oranges grown in Fresno.

But about the festival? I had forgotten. The autos, a caravan of them, waited at the front of the beautiful little Chamber of Commerce building at 10 o'clock on Admission Day. They were soon filled and took the party to the great property bequeathed by the late M. T. Kearney to the State University—Kearney Park. Returning at noon all visitors were taken to Margherita vineyard where luncheon was served. Car rides to Clovis with evening reception at Chamber of Commerce building; music, and always and everywhere plenty of fruit, finished the day. The next day trips to the vineyards at Selma, Fowler, Kingsburg and other places made up another round. On Wednesday Reedley and Fresno vineyards furnished the grapes to keep all from hunger and the day and the festival closed with a reception and entertainment at Recreation Park.

Thus ended the three days. The Republican in its welcome to the city said:

"For the visitors themselves, and for ten times as many, if they could have come, there will be entertainment and instruction to spare. Here they will see irrigation that is irrigation, on the largest and probably the most finished scale

Concluded on Page 273

Coulson's Improved Mash Egg Food

**Takes
Less
Feed**

**Makes
More
Eggs**



IF YOU WANT PLENTY OF EGGS THIS FALL AND WINTER when prices are high, you must lay your plans now. The hens must be given a strong feed which will enable them to get through the molt without loss of condition, and they will then quickly commence laying again.

First, see that your hens are healthy when they start to molt. At this time of the year, after a heavy laying season, they are apt not to be at their best, and a little of *Coulson's No. 3 Condition Powder* will put new life into them, and enable them to thoroughly digest and use the good food which they specially need.

At the same time, they must have the best food you can give them from the commencement of the molt. You will find *Coulson's Improved Mash Egg Food* is just what is required. It is strong in protein, due to the blood, meat, bone and oil cake meals which it contains.

Put Up in 90-lb. Sacks Directions in Each Sack

Your hens will not need to eat so much of the concentrated food to obtain the egg-making and feather-producing materials they need, thus saving their digestive organs and your pocket at the same time.

Coulson's Improved Mash Egg Food is therefore beneficial in two ways. Less feed is required and the hen gets just what she needs, with the result of a quicker molt and more eggs.

First cost is not everything, but even in this respect, COULSON'S IMPROVED MASH EGG FOOD shows to advantage. A 90-lb. sack will make a meal for 1250 hens. This is just over 2 lbs. a hen a month. Think how many eggs does it take to pay for this feed? In November, only 1 egg, and not more than 2 on the average.

We know what this feed will do by results on our own poultry ranch, as well as from testimonials from pleased customers all over California. What it does for others, it will do for you.

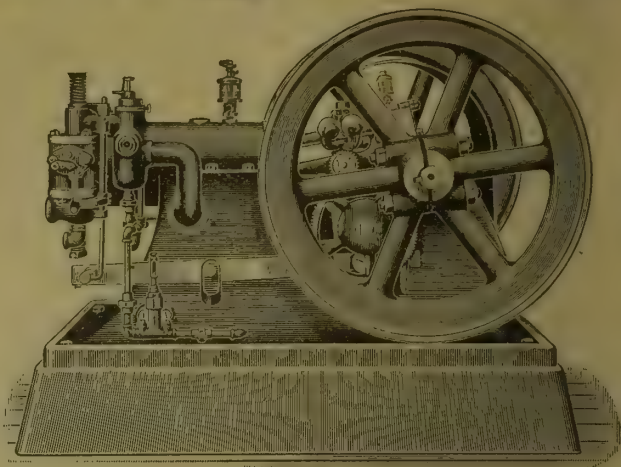
Give a trial order to your dealer; if he does not keep it, write to us, and we will either advise you where you can get it locally, or supply you direct.

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Coulson Poultry and Stock Food Co.
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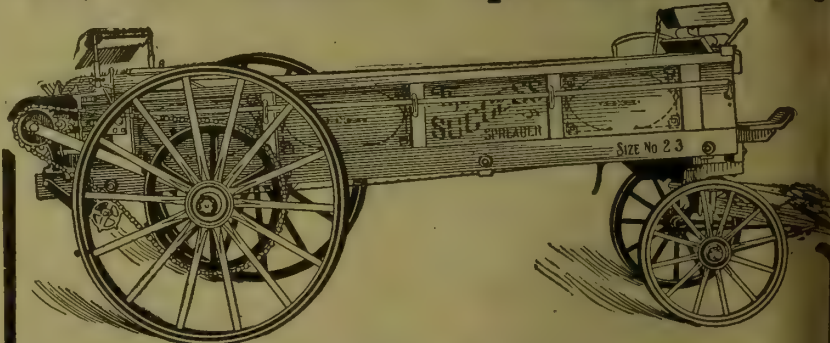


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SEE OTHERS, BUT DON'T BUY UNTIL YOU'VE SEEN
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Norton Engine and Power Company
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The idea of spreading manure properly is such a good one and the benefits derived are so great you are apt to think any spreader will give you these benefits—that a spreader is a spreader.

There is where you may make a mistake, for some spreaders are only trouble makers and the second season they are not taken out of the shed. To make them work takes too much time and costs too much money.

If you get that kind of spreader you're apt to conclude that spreaders are made to sell and not to spread manure.

SUCCESS SPREADERS

have 28 years' experience back of them—

KEMP & BURPEE MFG. CO., SYRACUSE, N. Y.

Deere Implement Company, San Francisco, Cal., Pacific Coast Agents.

thousands of them are spreading manure on the best farms in the country and are giving no trouble.

Twenty-eight years has eliminated the trouble making features—out of a hundred new devices and schemes that we have tried perhaps ninety have proved more harmful than helpful. They make good talking points but they don't help spread manure. SUCCESS Spreaders are made to spread manure.

When you get ready to buy a manure spreader, (and every farmer should have one) first write for our spreader book, it will help you; next go to your local dealer and see a Success Spreader but don't buy one until you have asked a man who has used one. He knows.

After October 15th, 1907, we will be located in the Brock & Feagans Building,
437-439-441 Broadway

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We sell only absolutely flawless gems of finest cut and color. The buying advantages of our three large stores mean a saving for you.

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illustrates 80 pages of best Diamonds Watches, Jewelry and Silverware. It is free.

Write for it to-day.

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Sugar-Beet-Pulp

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For Sale)

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Los Alamitos Sugar Company

Los Alamitos, Ca

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California Cultivator

Vol. XXIX—No 11

Los Angeles, California, Thursday, September 19, 1907

Subscription \$1 a Year

The California State Fair

A Good Fair---A Good Attendance---And Amongst the Attendants
an Occasional Farmer. A Few Observations by the Associate Editor

THE last fair ever to be held in the old pavilion at Sacramento, closed its doors last Saturday night. This old pavilion for many years has been the gathering place at special occasions for the society of Sacramento, and all over California. At the State Fair four years ago the central part of the structure was covered with tan bark and the social event of the fair was pulled off each evening when horses, draft, trotting and coach and even big Here-

The principal exhibits in the pavilion, and given the central and most conspicuous place, were the county exhibits. That is, counties competing for making the finest display of products. This to a certain extent was agricultural, but apparently the real motive behind it was the advertising of real estate or the advantages of any community, more than an honest competition of agricultural products. In fact, the large cash premiums offered for these displays were not on

string of animals. As he remarked, the winners could have been removed and still leave a magnificent display of Shorthorns. Jerseys made a creditable display though not by any means so large a class as the Shorthorns. Amongst these there were animals that were almost perfect from a show standpoint, and also for records for annual production which puts them in the "four hundred class of Jerseydom." The Holstein class was somewhat disappointing, not so much



A Prize Winning Berk



A Proud Prize Winner



A Little Hungarian Pony



Senior Champion Shorthorn Bull

and Shorthorns were led in under the influence of the swell set. That was when the grounds were in the outskirts of the city. The race track and grounds are removed four miles out, and the State Legislature made certain appropriations for buildings on the new grounds providing this old shell of a pavilion be removed from the park grounds which surround the State capitol. The time at which the old structure must be removed is next January, so that before another fair time, it will be razed to the ground, and the appropriation for the new building at the other grounds

the basis for a fine product of the soil, but a reward for the "finest display." In this competition there were twenty-one counties and they were most creditable. In fact, they were elegant.

Several implement houses, especially those handling gas engines and pumping plants, were largely represented and made a fine display.

At the race track—bear in mind we say the race track, for from the sign on the street car to every policeman on the corner, the word "race track" only is applied to the fair grounds, the word fair grounds apparently not conveying the

in quality of stock exhibited, as in the number, for Sacramento being in such close touch with so that a magnificent display of that class would be made. Some fine stock were, however, on exhibition. White faces were scarce, Dutch belted, of which there is said to be but one herd in the State, made quite a fine exhibit.

The swine class was very fine, especially as to Berks and Poland Chinas. Durocs came in with a showing of good animals, though a very small number. In the sheep and goat class there was not a great number of animals shown; however, it was to the credit of those who made the show-



Judge Carlyle Judging Percherons



A Corner in Machinery Hall



An Aristocratic Saddle Horse

have become available and a new and more fitting structure erected. It has always been an obstacle to securing best results at the fair, this separating of the stock from all other exhibits at the fair. The separation has made necessary the payment of two entrance fees in order to see the entire fair.

The fair this year was a fitting closing for the old pavilion, for it must be confessed it has been the best fair held in Sacramento for many years. Secretary Filcher apparently did some heavy work in gathering together such a representative display of exhibits, and while, as we say, it was the best held in many years in Sacramento, there is much to be desired to make it what it should be—an agricultural fair.

right meaning to the people of Sacramento. This is probably a holdover from the race track days when pool selling and horse racing under the shadiest of management was almost the only feature of the fair—at the race track, we repeat, there was some good racing, both of trotters, runners and "side wheelers," all apparently on fair and square basis with no gambling visible on the side. In fact, the tone prevailing about the track was entirely different than that which prevailed several years ago.

The stock exhibit was magnificent, especially was this the case in the Shorthorn class. In this, Prof. Carlyle, who was judge of the stock, was unstinted in his praise for the quality, not only of the premium winners, but almost the entire

ing, for animals of fine breeding that were exhibited.

The showing of draft horses was certainly to the credit of any fair, though in this respect Prof. Carlyle drew down upon himself about the only adverse criticism heard on the fair grounds. It was caused by his remark that California, as a rule, secured only culls or more inferior animals after the East had made its purchases. The remark was made apparently with the best intention to induce California buyers to be more exacting in their demands when buying. He said afterwards, however, that there was plenty of stock on the grounds which were far from culls.

German coachers, roadsters, saddle horses and even Shetland ponies were in evidence and made fine exhibits

Concluded on Page 287

Commercial tree studies begin with the tree in the forest and follow it the way to the finished product in the market.

Irrigation and Forestry

THE FLOW OF WATER IN PIPES.

A QUESTION often asked of the irrigation department of the Colorado Agricultural College by the farmers of the State is: how much water will a certain sized pipe carry under a certain head, say 10 feet, and what number of pipe would I recommend to stand the pressure say 25 pounds per square inch? A short discussion of this may be of interest to many farmers, so let me say that the quantity of water which a given pipe will carry depends upon many things; it depends upon the length of the pipe, the number and nature of bends in the pipe, the number and kind of valves in the pipe, etc. It is a very difficult thing, if not impossible thing, to derive a formula which will give results for every case, for the conditions affecting the flow are so many and so varied. However, we can approximate and come close enough for all practical purposes.

Rule.
The simplest rule I know of is this: a pipe 1 foot in diameter laid on a grade of 1 to 1000, will flow approximately 1 cubic foot per second. The quantity flowing varies as the 5-2 power of the diameter; the quantity also varies as the square root of the grade or slope. For an example: How much water will a pipe carry, which is 15 inches in diameter, on a grade of 3 feet to 1000? Fifteen inches is equal to 15-12 or 5-4 of a foot. If a pipe 1 foot in diameter on a grade of 1 foot in 1000 flows 1 cubic foot per second, and the quantity varies as the 5-2 power of the diameter; therefore the quantity from a 5-4 inch pipe on a grade of 1 foot in 1000 would be equal to 5-4 raised to the 5-2 power. The 5-2 power of a quantity means to take that quantity and raise it to the fifth power, then extract the square root. Hence taking 5-4 and multiplying it by itself 5 times (raising it to the fifth power,) will give us a fraction whose numerator is 3125 and the denominator is 1024. Extracting the square root of this fraction we get approximately 1.75 second feet. Now, remember the quantity varies also as the square root of the slope. In this problem the slope is not 1 in 1000, but 3 in 1000; therefore the quantity will equal the square root of 3, multiplied by this 1.75, which we obtained above, and the result will be 3.06 second feet, which is close enough to answer any ordinary purpose.

Another.
The more exact way of getting at practically the same problem, is this: Take 2-100 multiply it by the length of the pipe, divide this by the diameter in feet, or part of a foot, then add 1. Divide the head under which the water flows, expressed in feet, by the result; extract the square root of the quotient. Now take the result and multiply it by the square of the diameter, expressed in feet, or parts of a foot, and then multiply the result by 6.3 and you will have the quantity flowing in cubic feet per second. Remember the dimensions of the pipe must be all in feet, not inches.

For example: Suppose we have a pipe 6 inches in diameter, 100 feet long, under a head of 22 feet; find the quantity of water flowing. Following the above rule, we would have 100 feet multiplied by .02 equals 2 feet.

Now, 6 inches equals .5 of a foot and 2 divided by .5 equals 4. Adding 1.5 gives 5.5. The head, 22 feet, divided by 5.5 gives 4 for the result. Extracting the square root of this gives 2. Now take the diameter, .5 of a foot and square it; this gives .25. Multiply the above result by this .25 and we have .625. Then multiply this result .625 by 6.3, and we have the result 3.94, which is the quantity flowing in cubic feet per second.

Pressure Resistance.

Another question often propounded is this: What is the proper thickness of a pipe to stand the pressure of a certain head, say 50 feet? To get the pressure due to a certain head is always an easy matter. Take the head and multiply it by .434 and we have the pressure in pounds per square inch. One can easily remember this fraction by remembering that 1 cubic foot of water weighs 62½ pounds. There are 144 square inches in 1 square foot, so there would be 144 columns of water 1 foot high and 1 square inch in cross section. The weight of one of these columns can be found by dividing 62½ pounds by 144, which equals .434 pounds; hence the weight of a column of water 1 square inch in section and 50 feet high, will be 50 times .434 which equals 21.7 pounds, which, of course, is the pressure per square inch in the pipe.

In order to get the thickness of the pipe necessary to withstand a certain pressure, follow this rule: Take the pressure in pounds per square inch, calculated from the head if necessary, multiply it by the diameter of the pipe in inches and divide this result by twice the strength of the material of which the pipe is made. Better use for this strength about 3500 for steel, 2500 for wrought iron and 2000 for cast iron. This will give a good factor of safety. As an example: How thick should a steel pipe 18

inches in diameter be to withstand a head of 100 feet?

A 100-foot head will cause a pressure of 100 times .434 or 43.4 pounds.

The diameter 18 inches, Therefore 43.4 times 18 equals 881.2

Then divide by twice the strength: (2 times 3500 equals 7000,) and we have 881.2, divided by 7000 equals .126 inches, the thickness.—E. B. House.

Syria, once maintaining a multitude of prosperous towns and cities—Antioch having a population of half a million—is at present the scene of irreparable ruin. The destruction of Syria's forests, begun 2650 B. C., followed by

the disappearance of her soil and the decay of her industries, would alone have produced this effect. Babylon, once capital of the world, is a heap. Nineveh and Carthage, once the seats of mighty civilization, and abundantly equipped by generous Nature for permanent life, are desolate wastes. Man destroyed the forest, and lands which once flowed with milk and honey were transformed into deserts.

Nearly every farm has at least a few acres which are of little value for growing agricultural crops. This land should be set aside for a woodlot and devoted to the production of fuel, fence posts and timber for farm uses.

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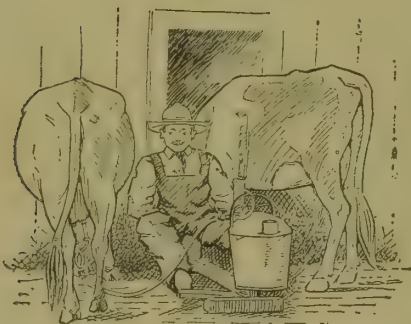


caseine web catches a third to half the cream. You stand that loss just as long as you use pans or cans for they haven't enough skimming force to take out all the cream. But, just the minute you commence using a Sharples Dairy Tubular Cream Separator, you stop that loss.

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Live Stock and Dairy

SWINE.

WHILE selecting healthy, well-balanced parents has to do with vigorous offspring, the matter of feeding comes in to carry the well born ones to successful maturity. The abundant feeds of California and the mild climate bring the swine under more healthful conditions than in the East. Foul pig pens need not exist in California, if they do it is the owner's preference, not the pig's necessity.

The sow for breeding purposes should be one that has grown thriftily from birth. She should not be over fat at farrowing time if large litters of pigs are to be raised. If the youngsters do not get a proper start on their mother's milk it is hardly possible to bring them into fine hogs. Now when it is said that breeding stock of any kind should not be thin or yet over fat, it may be well to explain what is meant. The leanness must not be barrel stave condition, or as Pat says, sometimes, when we see some thin horses on the road, "Sure, if it was money he had in his pocket, it wouldn't be beer he'd be abusing." So the thin sow that looks as though she would buy barley, is too thin for a good milker and will fail to be successful as a pig producer. The over fat sow is one that is in show yard condition, and is also as much out of the way as the thin one. Of either of the errors extreme thinness, or over fatness, the last is to be preferred. Why?

Because the too thin sow fails to bring strong pigs and will fail in her milk early, as the extra food she receives to push the milk making will go on her back first. The nutrition of animals is such that first the dam must be supplied, then the offspring. This is evidently a survival of the fittest, as in the lowest order of animal creation, the dam life is often sacrificed to furnish food for the young until they become new moving creatures. The higher animals have past that sort of foolishness and now the dam cares for herself first and lets the thriftless farmer stand the loss of the offspring for his neglect. The over fat sow is out of condition, too, for she has received food of the wrong class and her digestion of fats has been excessive. She may easily be chilled and take scours. She has all the faults that we try to escape in a milk cow which we desire to be a milk producer.

The young pigs that are largest and strongest at birth continue to gain right along, the light weight chap-pies never overtaking them. Natural conditions are best for the sow and pigs, these are found in the alfalfa fields or in liberal feeding of alfalfa hay. Slop made of skim milk and a small amount of rolled barley or bran added to the waste from the kitchen, is an excellent feed.

This should be fed fresh daily; I do not believe in the swill barrel, but wish the milk sweet from the separator poured into the troughs and the meal dumped into it. Then the house waste of clean vegetable matter should be added. If there is more than the pigs can eat give it to the chickens, rather than let it sour.

Grain.

The sows with pigs receives only the

Veterinary Instruments, Black Leg and Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

skim milk and grain at first. This is rolled barley two parts, bran or middlings two parts, corn one part, rolled barley two parts, bran or middlings two parts, corn one part; the corn can well be left out if it is high priced. This same ration is good for the sow's coming in, if fed in small quantities, the last week add a teacupful of flaxseed meal to the feeds. The flaxseed acts on the secretions and produces a good open condition that is favorable to young pigs. When the pigs are two week's old open the pens and allow the sows to have freedom enough for exercise. One of the losses in a piggery is in allowing the sows to farrow outside and overlay the young pigs.

This is guarded against by having a pig rail or fender on the pens, five inches wide and six inches from the floor or ground. The sow cannot get under this nor can she lay tight up against the wall to crush the little ones.

The Pen.

These pens are more desirable if made portable, for then the same ground is not used twice for the setting up of the pen for considerable time, this makes it free from disease germs. The pen's sides are made of close panels twelve feet long for the length of the building and eight feet long for the ends.

Two posts, twelve feet apart, seven feet high are set in the ground. Two posts six feet high are placed eight feet from these first ones to make the low side of the house. The sides are hooked on with ordinary door hooks and eyes to the outside of these posts, using three or four hooks on each panel to hold them from warping out of shape. The panels are four feet wide and may be made out of six-inch fence boards nailed to uprights, but be sure to put the uprights on the outside. Cut one of the shorter panels along the line of the uprights and hinge the piece for a door. The roof is in two sections and is wired to posts. The roof is made on a frame having enough cross pieces to make it stiff then the whole is covered with some kind of roofing paper. A number of short pieces of lath nicked to fit will be found of use to support the roof between the post along the side of the panels.

Advantages.

This pen is portable in a measure, it can be taken down and put up by two men in a couple of hours. The roof not reaching to the sides insure good air while the pigs are sheltered from direct drafts. In the extreme of a frosty winter, if too cold, nail sacks of single thickness around the open parts, the ventilation will still be perfect through the sacks. The fenders are placed on the panels and help to stiffen them at the bottom. If they are nailed securely in place they will not be forgotten when the pen is set up. The roof should set with the slope to the rain quarter. These pens for the sows are set directly on the ground in a level place, if there are spots of morning glory or other pests, the pen set up over them is a reliable cleaner of foul weeds.

Feeding.

The pig or pig melons afford a cheap

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feed during the winter for sows and pigs. The seeds of these are sown along the roadways after the orchard cultivation is finished. The pig melon is hard and keeps well resisting frost and dampness better than pumpkin. While pumpkins have a greater food value, yet, both are needed, the pumpkins are fed first then the pig melons. These two furnish the cheapest form of green food during the period the alfalfa is resting. I find that most of the pig troubles are non-existing when

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Farrowing.

At farrowing time it is well to be near enough at hand to see that the sow is not eating her pigs; this is common in California. "I am sorry to say that it is not always safe to buy a aged sow for fear she has this habit. When a sow does this, the only best thing to do with her is to put her into the fattening yard to make lard. There is only a little feeding needed at farrowing time, the authorities claim it is a source of annoyance to the sow, and fighting away she bites a pig and then eats it. In the pens described there is no feeding needed at this time. When

the pigs are little, a litter of leaves can be put in if the weather is chilly.

The slops fed the sow in cool weather should be warmed by having a can of boiling hot water poured over it. Using skim milk, one gallon to each pound of bran and two quarts of hot water and two tablespoonfuls of oil meal make good food for the sow in the winter. After the first week add some rolled barley and corn to it.

While the sow is giving milk avoid anything that is not sweet in her food. A melon or pumpkin freshly cut is good for her, but waste from the kitchen should be watched closely, if fed, as it may not be sweet. If there is any doubt send it to the grown pigs.

—M. E. Sherman.

California Live Stock Breeders Association

The California Live Stock Breeders received a most emphatic and deserved compliment from Prof. E. J. Wickson, of the State University, at a recent meeting in Sacramento when the professor gave to it much credit in that it was the most important factor in securing the appropriation which made the State University farm at Davisville a possibility. Dr. Wickson was present and expressed most hearty appreciation for the work done in securing legislative action, and expressed a desire to aid in every way the great industry represented by the men making up the membership of the association.

Dr. Wickson was not present because of being placed on the program, but being in the city he was, of course, requested to address the association. In fact, the doctor said: "This association is really the source of the life of the New University." The attention was also called to the fact that, at the time of need, when the State University was endeavoring to bring matters to bear upon the legislature at this much needed step forward could be made, this association did some exceptionally good work and thought about that which the State is so long needed. The State farm at Davisville was referred to as being nearly ready for preliminary work and the fitted inauguration of the short term from October to February Prof. A. Henry, of Wisconsin, is to be here for a course of lectures. The creamery which for the present will be under the direction of Prof. Major, professor of animal industry, will open on October 30th.

Prof. W. M. Hayes, assistant secretary of agriculture, Washington, was also present and gave a most instructive talk on the need of more agricultural education and called attention to the rewards of such education. He said that country life is more and more coming to its own, and more and more looking to it as one of the occupations offering brightest opportunity instead of being, as it has been considered in the past, the dullest of occupations.

The future of agriculture in California is great, for America is the star of the world, and California is the star of all America. Let us have a great country life as we have a great city life.

That the greater country life might prevail he appealed for broader education and for more careful and ex-

tended agricultural research. During the past quarter century \$25,000,000 have been spent in agricultural research. During the next quarter century if agriculture would keep pace with railroads and great financial and commercial institutions in its development there should be at least one half a billion dollars expended in this country along the same line.

Beside the appeal for deeper research he devoted much time to an appeal that the country school and high school should all open the door of agricultural knowledge wider than ever before. He referred to certain States where the consolidated rural schools were having great schools, the "kid wagon" going from various neighborhoods to the central school where greater talent could be centralized than in the separated rural district.

Mr. Hayes also appealed for organization along social and literary lines in country life. He said not only to use text books, but work with things. The present tendency seems to be to invest vast sums in "peace" by creating great navies and great armies. This he deemed wise, but also appealed for an investment in men as well as in peace. Broaden and deepen their knowledge of agricultural things and the greatness of this country will continue.

As to the breeding of animals he said that ten years ago animal-breeding was far ahead of plant-breeding, but now with Burbank and others having given attention to the matter of plant-breeding it has taken such advance strides that today it seems ten years in advance of animal breeding. He suggested as a practical aid in better and more intelligent animal breeding co-operative organizations wherein the very highest grade of animals of any particular type may be secured, and upbuild the character of the stock of the entire community.

G. A. Murphy read a paper on the brood sow from a most practical standpoint.

Prof. Carlyle spoke of the greatness of opportunity before California stock breeders, and to enforce it upon the attention of the members he referred to the fact that vast quantities of beef and pork are shipped through Colorado into California every year, and this in the face of the fact that California has capacity to produce the finest stock in the world under the best conditions. There needs to be a great awakening in this State along

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this line that there may be less importation and more production of cattle, sheep and hogs. He spoke of the time when California won the name for producing the finest, fastest road and trotting horses in the world. Why has not this reputation been held and increased by not only producing these fast horses, but draft horses, beef, cattle and hogs.

We are continually going to Europe to buy the import blood for raising our grade of stock. This may be necessary, but why can we not improve within our own State boundaries by raising breeders who will be compe-

tent to grasp the problem of breeding the finest stock this world produces. He predicted that the next few years would see great advancement along the line of stock breeding in California.

The association did not hold an election owing to so many attractions keeping from attendance at the meeting a quorum. At present Mr. S. B. Wright of Santa Rosa is president and Prof. E. W. Major of the State University is secretary.

Amity, Oregon, is building a milk condensery.

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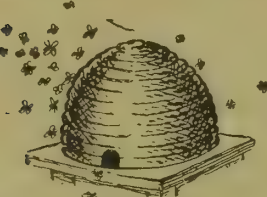
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The Vegetable Garden

WINTER VEGETABLES.

BY most people winter vegetables are supposed to be grown in the winter time, while in reality, they are grown in the fall and are about ready for use when the chilly nights of December overtake them and all but stops their growth, except in the most sheltered places. There is some partial exceptions to this rule, of which peas, lettuce and turnips are the best examples.

It is always hard to get a good stand when planting in August and September, as at that time of the year there is but few or no tender greens, and, as a consequence, the birds eagerly devour the young plants as soon as they push their heads above ground. Where the planting is done on a large scale, the percentage of damage is not so great, while when only a small bed is planted the loss is apt to be a total one in which case it is well worth building cover beds; make a frame of six-inch boards, four feet by twelve or any other size desired, cover same with a wire screening of one-inch mesh, such a frame can easily be laid to one side or just raised up from one side at a time when any weeding or other attention is in order by making the soil rich and supplying plenty of water a most astonishing amount of stuff can be grown in this small space. It will give fresh vegetables almost every day in the season, which for health and relish are far ahead of anything we can buy. Where there are children they should be instructed to do the work and in this way earn a nickel in place of spending one. We, of this generation, think too lightly of the saving habit. We should teach our children how to earn a little cash and thereby make them self-supporting.—J. C. Ostergard.

OUNCE BETTER THAN POUND.

Preventive measures are always more practical than remedies, whether it be in fighting crop and fruit pests or diseases which assault the herds and flocks. In fighting fruit pests, it will be a great deal more effective to remove and destroy the infested fruit this year than to try to overcome the pest next year by spraying. This is especially true of the codling moth. Remove and destroy the worm-eaten apples as soon as they fall to the ground and there will be a great deal less of the trouble next year.

During a dry time a good supply of road dust should be gathered to a dry place, if the reader wishes to use it in combatting cabbage bugs. When it is needed the weather may be so wet that it cannot be procured. Fill up an empty salt barrel with the dust and set in the barn or smokehouse where it can be kept perfectly dry till it is needed. By adding about one part insect powder to ten parts of road dust will make a dust that will effectively destroy all three forms of the cabbage worm.—Journal of Agriculture.

When a strawberry plant is seen to be out of condition, it is best to examine into the cause. Ofttimes the notorious white grub will be found at work on the roots of such plants.

Hunt 'em out and kill 'em; not that the lives of such plants are saved in so doing, but that the rascal may not have an opportunity of destroying other plants.

If your neighbor is trying to get into fruit growing and needs help, give him all the suggestions you can.

TO DESTROY CABBAGE WORM.

A. D. McDowell, an Oklahoma gardener, writes: The green worm is the plague of our lives here. For some time we could not raise a cabbage because of the worms till a neighbor told me the following remedy:

Take alum and dissolve it in water and apply it to the cabbage with a common sprinkler as often as there are any worms to be seen. I find that a few applications are sufficient. This remedy is entirely harmless, not very expensive and is sure destruction to the worms. Make the solution quite strong with alum, the amount you can determine for yourself.

An Iowa gardener gives the following advice: We take a pint of barrel salt and dissolve it in a gallon of water. After the salt is thoroughly dissolved we sprinkle it on the cabbage with a common garden sprinkler. The result is we never have worm-eaten cabbage, while our neighbor across the road loses his crop nearly every year.—Farm Progress.

HOW NITROGEN IS LOST.

A good many farmers ask the question, how it comes that the soil on their farms loses its nitrogen and therefore wears out so readily. We can give one reason, crops are not rotated. No soil that will produce a variety of crops should be farmed continually with one crop. One writer has estimated that ten crops of one kind of grain will exhaust the best soil in the United States.

There are three well known ways, says Journal of Agriculture, by which soil may lose nitrogen. First, through the crops which are grown on and removed from the soil; second, by escaping into the air in a free gaseous form; and third, leaching out through the soil in the drainage waters as nitrates. Experiments show that many times more nitrogen is lost in the last two named ways than through the crop. It is not so much that which is lost through the crop that depletes the soil as that which is lost through the air and drainage waters.

The Minnesota station has shown by a recent experiment that thirty bushels of wheat per acre will remove something like forty pounds of nitrogen. If the ground be kept in wheat for twelve years there will be an annual loss of about 95 pounds of this element through the drainage waters and air. For every pound that is taken from the soil to make the crop more than two and one-fourth pounds are lost in the other ways named. It should be noted that this is true if the ground be kept in continuous cultivation to wheat.

When a rotation of crops is practiced in which clover is grown, live stock kept and manure used, the supply of nitrogen is maintained. There will be a certain amount of nitrogen lost through the air and drainage waters in spite of all that can be done to prevent it, but this can be more than returned by the growth of the clover and the application of manure.

The man endowed with a good supply of energy, determination, push and grit combined with love or aptitude for the business, is sure to win out in the fruit-growing business as in any other occupation.

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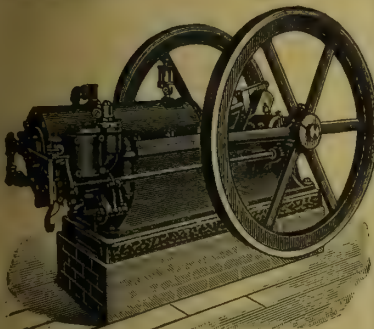
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CHAS. HOWARD
Riverside, California

The Ornamental Garden

FLOWER GARDEN.

Preparation of ground for winter planting and material for enriching the soil according to the needs of plants grown are important at present," says a writer in the Journal of Agriculture of Victoria. Most of the summer and autumn blooming plants will continue to flower more or less this month, and little can be done but maintain neatness until the time arrives to prune, store or transplant the different classes.

In preparing new beds one of the most important considerations is, that the whole area is well under-drained. It is of even more importance than the character of the soil, for no matter what plant food a soil may contain, it remains inert and useless

Seeds of sweet peas may be sown now. The most suitable soil is a fairly heavy, well drained loam. Stable manure is a suitable fertilizing agent, also being of great benefit. Plenty of space should be allotted to each plant, the most common mistake being sowing the seeds too thickly. Plants of hardy annuals raised earlier in the year may be transplanted to their flowering quarters. A fair amount of room should be allowed for each plant, a great number of and far finer blooms being produced by a few plants well grown, than by a quantity overcrowded and half starved.

Bulbs of various summer-blooming species may be planted.

We lose much beauty in gardens by ignoring things like hops. We re-



The Arch on Mariposa Street, Fresno

THE FRESNO RAISIN FESTIVAL.

Continued from First Cover Page

in America. They have heard of the famous grapes of California, and they have seen many beautiful ones; but here they will find grapes to eat as well as to look at—grapes that are really as sweet and luscious as they

look. They will see a unique industry, in the raisin industry, and they will see all the other irrigation industries on an unexampled scale. Incidentally, they will be well entertained and have a good time."

It was all made good.—C. B. Messenger.

unless an effective system of drainage exists. Well drained soil when cultivated is always warm and moist—conditions positively necessary for the perfect development of plant growth. Organic matter in the soil is decomposed and made available for plant food by the action of air, with its elements, oxygen and carbonic acid gas, which is constantly in attendance on water moving through the soil. The proper depth to set the drainage material varies according to the depth of the clay or other sub-strata. In heavy retentive soils with a strong clay bottom, shallow drains set a few feet apart are best; in deep light soils the pipes or other drainage material will need to be placed in the clay no matter how deep it may be, to be thoroughly effective.

Where possible a compost heap or pit should be made in which leaves, stems and general garden rubbish may be partly decayed before being dug into the soil. Stable manure should be mixed through the compost and the whole mass occasionally turned over and watered if dry. Lime should not be added or any ammonia that may be present will be dissipated.

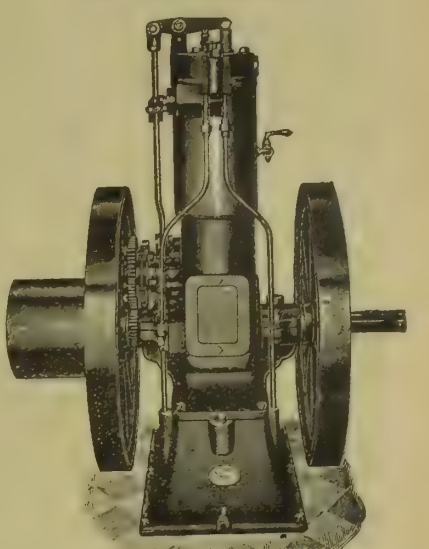
member a gnarled apple tree over which the hop had spread its vigorous shoots, and it would not have been easy to discover a prettier bit of free and picturesque growth. It makes a happy contrast to clematis, the mass of deep green leaves intensifying the color of the deep blue flowers.—Coleman's Rural.

An old negro who lives in the country came into town and saw an electric fan for the first time in his life. The whirling object at once attracted his attention and, after intently gazing at it for several minutes, showing all the while the greatest astonishment and curiosity, he turned to the proprietor of the shop and said: "Say, boss, dat suttlenly is a lively squirrel you got in dis heah cage. But he's shurely goin' to bus' his heart ef he keep on makin' dem resolutions so fas'."—Coleman's Rural.

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There are 236 members of the Santa Ana Valley Walnut Growers' Association.

California Horticulturally

SULPHUR CAN BE USED.

SECRETARY of Agriculture, James Wilson has given assurance that the fruit dryers will be unmolested in the customary use of sulphur for this season. This is well, and really all they ask, as before another drying season opens, it will be demonstrated that sulphur, as used here, is rather beneficial than injurious. It preserves the fruit, keeps it from injurious insects, and is not used in sufficient quantity to be injurious as a food. Our fruit men now have nearly a year in which to press these facts home on the chemists of the Department of Agriculture, and they will do it.

CLOSER INSPECTION NEEDED.

It is to be hoped that the discovery of a new pest to our State, recently made, and the panic it has caused, will have the effect of redoubling the vigilance of the County Horticultural Commissioners in their work of inspecting outside stock. There will undoubtedly be heavy shipments of nursery stock brought in from the East during the coming planting season, and as it is known that there are sections in which pests and diseases unknown to California exist, safety demands that the most careful scrutiny should be made of all outside stock, and none should be admitted unless it has attached to it an affidavit stating where it was grown. It is gratifying to note that since the White Fly alarm, several counties, which heretofore the Horticultural Commission regarded as an unnecessary body, have made appointments for the protection of their orchards.

LOOKING AFTER PARASITES.

Prof. Froggatt, of Australia, who holds a place in the front ranks of the entomologists of the world, has recently been on a visit to California on his way around the world. Prof. Froggatt was chosen to represent four of the Australian States, and one of the principal objects of his trip is to discover, if possible, a remedy or parasite for the fruit fly, which is one of the worst pests of Australia. Incidentally, he has made a tour of California, inquiring into the methods pursued here and investigating the work of the codling moth parasite, which he states has been grossly exaggerated by the newspapers of his country. He will visit points in the West Indies, Mexico, South America and Europe before his return. It is pleasing to note that California's system is being noticed by other countries and her lead followed by them.

STATE FAIR A SUCCESS.

The State Fair this year has far surpassed any ever before held. The great pavilion is well filled with exhibits of all the material productions of the State—Agricultural, mineral and manufactures. Twenty-one counties are represented, covering the extreme length of the State, from San Diego to Siskiyou. Public interest in it has been keen, and from the opening night vast crowds have been in attendance; on Friday night 15,000 people were present. At the agricultural park, interest was manifested in the stock and poultry exhibits. There were some good races, but this branch was subordinated to the general display, and was not made, as has here-

before been done, the whole show. It has been claimed that the races, with the consequent gambling, were the life of the State fairs and that they could not be carried on without them. The present management found the show moribund and ready for burial. It concluded that it was dying with the gambling feature in full blast and could do no more if it were cut off, and the experiment has been tried and with marked success. The exhibits are the largest and best ever made; the attendance the greatest on record, and there is a marked absence of tin-horn gamblers and fakirs whose presence has heretofore caused self-respecting people to stay away.

CAUTION TO TREE PLANTERS.

Tree-planting season is approaching again and very many orders for nursery stock are already being placed. There will again be a great call for all varieties of fruit trees, especially peaches, which our local nurseries will hardly be able to fill. A word of warning against tree peddlers will not be out of place. In giving orders for trees be sure to give them to some well established nursery, their agents or some one whose standing is known. There are traveling agents who will take orders for any kind of stock and supply it, usually below the regular rates, and too often after waiting and working for years for the trees to come into bearing, the purchaser will find that he as well as the trees have been sold and he has got something he did not want. Reputable nurserymen may make mistakes, but it is not likely; they can be reached and will make good; but the irresponsible peddler has gone, nobody knows where, and his patron will have to pocket the loss and the annoyance.

WHITE FLY BEING HELD IN CHECK.

Reports from the White Fly sections are still favorable. The State Horticultural Commission has men stationed permanently at both points from which it has been reported, and it is being carefully watched to prevent its reappearance. Daily reports as to the condition of matters are received from these officers, and so far there is no trouble to be apprehended. There is no question now but that the pest has been so far got under control that by constant vigilance, it may be kept in check, and quite probably eradicated.

FRUIT GROWERS' CONVENTION.

It has been definitely settled that the next Fruit Growers' Convention goes to Marysville. Arrangements for it are already in progress and the White Fly and its control will form a most important part of the matters to be considered. The people of Marysville have responded bravely to the demand upon them to sacrifice their trees for the benefit of the State, and it is believed that the discussions at the coming convention will show that their sacrifice has not been in vain and that it has been appreciated.

PEACH BLIGHT.

Peach blight has not been nearly so prevalent during the past season as it was a year ago, but it has still been reported from some sections. Peach blight is one of the fungous diseases, and its virulence depends largely upon climatic conditions. Nevertheless, in those sections where it has been bad it is as well to take precautions against its reappearance next season, and for this purpose, peaches should be sprayed with the Bordeaux mixture as early as possible. Anywhere from the middle of November to the middle of December.



Does this stream of water look good to you?

It certainly does to the two men standing beside it. They are the President and Treasurer of the company to whom the plant belongs.

It is raising 40 inches of water from 250 feet below where they are standing. This water goes into a reservoir 18 feet above the pump through an 8-inch pipe-line about one-eighth mile long and you cannot see a pulsation in the discharge if you try. It has been doing this for over a year. There have been no repairs, not even new leathers, and it runs better, if such were possible, today than it did a year ago.

How many pump users can say this?

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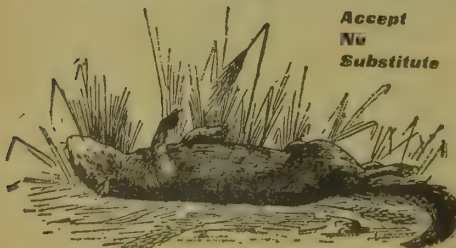
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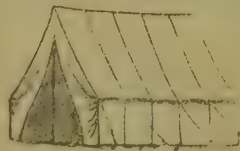
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YELLOW SCALE.

"FOOLS rush in where angels fear to tread," and since scientists dodge this issue so completely it seems to be high time that the "fool" should give information leading to the conviction of this pest regardless of its identity with, or inference from, the red scale, this being apparently the chief bone of scientific contention.

Prof. C. L. Marlatt has the following to say of this scale in Farmers Bulletin No. 172: "This insect (the red scale) has, in California, a rather well marked variety, known as the yellow scale, (*Aspidiotus citrinus* coq.). This variety does not differ in any structural feature from the red scale, the mature insect remains yellowish in color. This variety is attacked by quite a number of parasitic flies, which keep it more or less in check, so that it is not, as a rule, so abundant as the red variety."

Many local authorities claim that there is really no difference and that red and yellow scales are one and the same. Among inspectors a difference is recognized though their definition of this difference is not always quite consistent or satisfactory. They quarantine and mark for fumigation that which they call red scale and allow the other to go unmolested. As a general rule yellow scale is found only on leaves and fruit, especially on oranges and lemons, while the red variety attacks the twigs also and often becomes so encrusted on these that they are killed entirely. In the past, inspectors have been able to judge largely by the abundance of the infestation also. As suggested, the yellow scale is generally scant while the red increases rapidly after once getting a foothold. Formerly where yellow scale was found there was abundant evidence of parasiticism. The Chalcid Fly parasite has been especially effective and has kept the insect at a minimum. This lends color to the statement of Prof. Marlatt that there is really a difference since the red scale seems to be immune to these attacks and spreads with great rapidity.

Improvements in field practice, especially the universal adoption of fumigation, make it necessary at the present time to read just our views concerning this insect and I believe it would be a better practice for inspectors and fumigators to be instructed by the County Commissions of Horticulture to consider these scales as identical. In the first place there is always more or less confusion in distinguishing one from the other, for they are especially similar in the younger stages. A number of instances could be cited where a scant infestation of red scale has been allowed to remain because of the belief that it was the yellow variety, and others where growers have been required to fumigate with double dosage for the yellow. This invariably causes complaint from the growers and at once reflects on the ability of the inspectors where these gentlemen are really not at fault. Another difficulty always shows itself in the quarantine of one citrus region against another. In communities where red and yellow scale do not occur they are not willing to admit trees infested with either one, either because they believe that the two are identical or because they fear that the parasites will not be effective and will fail to be present at all in the different climate and conditions

in which the trees are to be transplanted.

A foreman in one of our large lemon packing houses advises me that more than seventy five per cent of the fruit relegated to a lower "scale" brand is affected with the yellow variety of this pest. This means nearly one per cent of the entire output and will thus figure well into dollars and cents in the loss in price obtained for this fruit. After much careful observation and discussion of this subject with inspectors and fumigators it becomes evident that the yellow scale has been increasing enormously in the last two or three years and that this is due to the universal practice of fumigation for black scale which kills the parasite of the yellow while it does not seriously affect the host. Many groves that I have visited show yellow scale not only present but general and abundant and doing serious injury to the trees. These are generally groves where rigid fumigation is practiced against black scale. While it is thus increasing in groves long infested it is also spreading to new fields and promises to become a serious problem for the future.

Fumigation for black scale cannot well be dispensed with for the sake of this parasite, or any other that we are at present blest with, but should rather be increased to red scale formula where either the red or yellow variety occurs.—B. J. Jones.

THE COMING ORANGE CROP.

It is yet too early to form a correct estimate of the coming crop, but to get something of an idea, the Cultivator has written a few growers and interviewed more. To sum it up in a few words "about the same or a little lighter than last year," is the general verdict. It is yet too early to judge of quality. Size will run smaller than last year, though that will yet be controlled, partially, at least, by later weather conditions.

Mr. Mills, of Arlington Heights Fruit Co. writes:

"It would be impossible for me to give you at this time an estimate of the coming orange crop. So far as Arlington Heights which I have covered during the last three days pretty carefully, is concerned, I believe that I am safe in saying that our crop is above the average and that we have more fruits if not more cars of fruit, than last year. We will have smaller fruit, as large a quantity we believe, in pounds, and much better quality because of better size.

"The lemon output on the heights this coming year will, we think, be somewhat better, but it is too early to make a careful and just estimate as to crops. They should not be estimated before October or November, say October.

"We can confidently say however, that we have a pretty fair crop of fruit on Arlington Heights for the coming season. As to the other portions of the section here, East Riverside, Highgrove, West Riverside and the lower part of the valley, I am unable to say at the present time."

Chas. R. Paine, of Crafton, writes:

"In my judgment, the coming orange crop of Crafton and of such part of Redlands as I have seen and heard about, promises to be greater in quantity and, mostly because of the greater number of the fruits of superior quality than for several years. Some doubt this, saying it

will be about the same as last year and that oranges have not set well inside, while the outside makes a good showing. Splits have just begun to appear; this and other causes of injury, including possible weather damage, makes predictions of little value.

It is pretty safe to say, that the crop will be a fine one."

Mr. Frank L. Palmer, of North Pomona says:

"Will say in a general way that the crop promises to be larger than the last, but not all uniform as to quantity."

J. H. Reed, of Riverside, estimates:

"My observation has reached over but limited area in my own neighborhood. Judging from what I have seen, we have a considerable smaller crop in sight now than we had at this time last year. The crops not heavily set to commence with; was severely depleted by the unusual July dropping, general in some sections, in single orchards only in others.

It is too early to know about quality, but I see no reason why we may not expect a crop of high grade."

A CHARMED LIFE.

Miss Elephant—"I wish you wouldn't keep looking behind you as if you believed you were pursued. You never see me doing it."

Miss Rabbit—"No; your left hind foot doesn't happen to be in demand as a vestpocket charm."—Woman's Home Companion for June.

Citrus shipments from Redlands are over excepting now and then a carload of grapefruit.

Orange Seed Bed Stock

Both sweet and sour, the very best. Orders booked now for delivery Spring of 1908.

Southland Nurseries
F. H. DISBROW, Proprietor

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Half Price

10,000 Orange Seed Bed Stock in good condition. Last of this season's stock. Must be sold this month to clean up bed. Address

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California Cultivator

ESTABLISHED 1889

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WICKSON APPOINTED.

On Tuesday, September the 10, at the regular meeting of the Board of Regents, Professor E. J. Wickson, upon nomination by President Wheeler, was elected to be Director of the Agricultural Experiment Station, which makes him head of the department of agriculture in the university. Professor Wickson began his connection with the university in 1879 as lecturer in dairy husbandry. In 1885 he became lecturer on practical agriculture, and in 1891 was promoted to the associate professorship of agriculture, horticulture and entomology, and given charge of the Farmers' Institute work. This position he held until his elevation to the professorship of agricultural practice in 1897. Since May, 1905 he has been acting director of the university experiment stations, and dean of the college of agriculture. Professor Wickson has been connected with nearly every branch of agriculture in the State of California, and has probably done as much as any one to promote its interest in this State.

The State Fair for 1907, which closed last week, was one of the most successful in the history of the organization. Its exhibits were more numerous and of a better quality, while the attendance is larger than in many former years.

BEEF PRICES TO GO UP.

We are confronted by the prospect of another rise in the beef market. Local dealers say there is no cause for it; that is another cinch of the beef trust which is only felt in trust-controlled markets and has not been uniform throughout the country.

Secretary of Agriculture Wilson declares that there is a shortage of cattle, that the meat packers are paying on an average of 15 cents more per head on cattle and that this is the reason why the public is being compelled to pay an average of 3 cents a pound more than formerly for the various table cuts.

A representative of the stock-raisers of Texas, declares that the stockmen are not getting the 15 cents, and that Mr. Wilson's entire argument is falsely premised, since the increase in meats has been felt only in trust-controlled markets and has not been uniform throughout the country.

Secretary Wilson further declares that "the American people are eating more meat today than ever before in their lives. That French King who boasted that his country was so prosperous that his humblest subject had a fowl in the pot every Sunday would cut a small figure in America today. The American workingman has meat every day and, as a matter of fact, most of them have meat for breakfast and dinner.

"Now, with all this constantly increased demand for meat, the price is going up because there is not an increase in the supply of cattle in proportion to the increased demand. There is an enormous export trade, which cuts a great hole in the supply. Last year we sent abroad more than \$323,000,000 worth of animals, meats and animal products. The farms and the ranges are not increasing their supply of cattle proportionately.

"It costs more to raise cattle now. The price of farm labor has risen enormously. The great commercial prosperity of this country has drawn every available farmer boy and farm hand to the cities to work in our factories, in our shops and in all the many forms of industrial activity. A farmer is now compelled to pay wages to his farm hands, that proportionately, are just as high as are the wages that builders and other employers pay in the cities.

"The price of grain has gone up, and the farmer can make more money raising grain or hay or other crops that he can harvest with labor-saving machinery than he can in raising and fattening cattle for the market. Possibly, too, not so many cattle reach the market now because the rigid inspection of cattle, under the meat-inspection law, makes it useless to send to the market cattle that might formerly, perhaps, have passed. At all events, the supply has not increased as much as it ought."

All which Secretary Wilson says may be true, but it is going to be hard on the working man. He will have to learn to eat vegetables in greater quantities and depend less on meat.

CARE OF FARM MACHINERY.

Riding through the country by private conveyance, or on the train, one cannot fail to note the carelessness of the owners of farm machinery in permitting costly implements to sit in the sun and night fogs, wholly unprotected. We have often heard it said by experienced farmers of the better class, that there is no greater source of loss to the average farmer than that which comes to him through proper lack of attention to his farm machinery.

Recently we noticed a threshing outfit costing, at least, several hundred dollars, standing out in the sun where it has been left over a month. This machine including engine and all will, no doubt, be left where it is through the entire season. The loss to that one outfit will be greater than the wear for a full season. When the work with any machine has been finished, it should be thoroughly cleaned and all parts that are likely to rust should be carefully wiped with an oil rag or waste. They should then be stored in a shed of some kind, rather than left in the corner of a field or under a tree where the rain in winter will cause the bolts to rust, and the hot sun to loosen them, and render it necessary to expend \$50 or more on it before it is in condition to use

again. With good care and housing an ordinary machine ought to last ten years, but as they are too frequently cared for, or not cared for, they wear out in from five to six years. Here is a loss of 50 per cent on the machine direct to the owner. It is no wonder some farmers do not care in the world. As a general rule, the prosperity of a farmer may be estimated by the way he cares for his farm tools and machinery.

Poor care indicates shiftlessness, waste, lack of energy, and that the owner must necessarily have more tools and implements in a short time. Good care, on the other hand, indicates prosperity, development, bank deposits and the buying of farm machinery. Plows, harrows, binders and tools of all character should be thoroughly cleaned and oiled when laid away, or not in use, and protected from the weather by being housed. A good shed can be built for \$200, perhaps less, and the expense of such a shed will be returned in a handsome interest to the owner of the machinery.

In the grain fields of California it is to be noticed negligence of farmers in caring for the machinery a good deal more than ought to be. Economy in the care of all implements will bring big money saved to every farmer who practices that economy.

THE BUSINESS SITUATION.

There is a very general disposition to look forward to a season of improved business conditions. There was complaint of depression in certain quarters during the month of August but it is believed that the climax has been reached. Trade journals and circulars issued by financial houses it is the feeling that the worst has been passed. It is believed the period of liquidation in the stock market has about ended. Secretary Cortelyou has decided to furnish money from time to time to the national depositories which will relieve local situations. The West will need the money to move the crops and the same will be forthcoming. The world at large is going to need the crops of the West and the crops will be delivered at prices which will cause the Western farmer to smile.

In the industrial world every one seems to be at work. Wages are high. The great steel mills of the country are running night and day and are unable to keep up with their orders.

There are few clouds in the sky and even those which are discernible are not suggestive of a storm.

MAKE THE RESERVES PRODUCTIVE.

In speaking of the Forest Reserves, Governor Pardee said at the Irrigation Congress: "In setting these forest lands aside, the government does not intend to remove them from the use of the people. On the contrary, it is the government's intention, and it is now so doing, to make the forest reserves as productive a source of wealth to the people of the country as the German forests are to the German people.

"In the State of California alone there are something like 22,000,000 acres of forests reserved under control of the government; that is about one-fifth of the area of the State. In the United States the forest reserves area is considerably larger than the whole State of California and it ought to be much larger. Although these reserves have been under government control for but a very short time, they have already begun to return good values to the people of the country. For instance, in the fiscal year 1904-05, the revenues of the forest reserves from the sale of timber were \$60,142.62; while, for the year 1905-06 the returns were \$767,219.96—over ten times as great. Over 96,000,000 feet of lumber were sold from the reserves in 1905-06. The price of this lumber, on a "stumpage" basis, also increased from \$2.50 per thousand feet to \$4."

A market for prairie dogs has been opened up in South Dakota by the request of an English hunting club for 3000 of the little animals, which it is proposed to hunt in place of rabbits. The only goes to prove the old saying that "every dog has his day."—Journal of Agriculture.

If a market were opened for California squirrels and gophers a thriving industry in the miserable little pests would be built up. A large number of men and boys, not otherwise employed, could find steady engagement.

Agricultural Notes of the Pacific Coast

Northern California

Buyers are demanding cleaner picking by the hop pickers of Sonoma county.

The peach crop of Sutter county is ahead of all expectation in size and quality.

The Western Creamery Company, of Benicia, has a buying station in Woodland.

Yolo county reports the finest grain crop in years. Corn is an especially heavy crop.

One poultry keeper in Glen county gathered 10,548 eggs and sold them for \$213.77.

San Francisco boasts a dairy depot costing \$60,000, said to be the finest on the Coast.

"More hop pickers than ever before in this valley" is the report of the Ukiah Times.

In Mendocino county prune trees are being dug and vines planted in their place.

Solano county is making a grain return record this year which beats all previous records.

The Veterans' Home in Napa county has over four thousand chickens in its poultry yards.

Ukiah made one shipment of one thousand head of beef cattle by special train last week.

The vineyards of Napa county never promised better returns than they do at present.

Warehouses in Lincoln, Placer county, are already filled with a big hay and grain output.

Distemper has broken out among horses in Tehama county. At Bohemia several have died.

The county line between Placer and Nevada county is being established by a corps of engineers.

The weather at Ukiah has favored the hop pickers and work is progressing very satisfactorily.

The wheat crop of Butte county is said to be excellent this year, while barley is exceptionally heavy.

Planting the raisin grapes near Arbuckle, Colusa county, is to be extended more than ever before.

At Sacramento last week, was organized an association to become the guardians of the State's rivers.

The creamery at the State Farm near Davis, will be in charge of Mr. Hagerman, recently of Fresno.

Marsh hay raised in Solano county on reclaimed land is said to be exceptionally fine and profitable.

The hop crop of Mendocino county is turning out better than was expected, but small grain is short.

Employees of the Newman ranch have contracted anthrax poisoning through skinning diseased animals.

Grape growers in Nevada county say that the continual cool weather will prove rather disastrous to grapes.

Ukiah hop growers claim that eight cents which is being offered barley lets them out with cost to production.

The grape growers of Woodland held a meeting last week to secure, if possible, a better price for wine grapes. So far it is claimed the prices have run to little over \$16.

Central California

Fresno wineries are running full strength.

Barley is running very heavy in Monterey county; some sacks will run as high as 20 bushels.

From Tulare, in 1901, 600 pounds of butter were sent to market daily. Now the daily shipments are 4500 pounds.

The grape crop at Hanford and the country about, is in fine condition and excellent prices are realized by the growers.

Green grapes are bringing \$2000 a car in the Fresno district and from 11 to 12 cars are going forward daily from Fresno.

The San Joaquin bean crop is about one-fourth of that of last season. beans which will make thirty-five bushels per acre.

Grain in Madera county is yielding an exceptional crop this season. One firm will realize 12,000 sacks of wheat and 3000 sacks of oats.

Cheese is becoming an important product in Kings county. One man, B. Martella, makes 200 pounds a day which brings him in \$30.

The hop kiln belonging to Mrs. Wright near Santa Rosa, was destroyed by fire last week. Over \$1000 worth of hops were burned.

The rural mail delivery out of Bakersfield is increasing rapidly, showing that the county around about is settling with newcomers.

The San Joaquin County Japanese Labor Union is successful in holding up ranchers of that section to \$2 and \$2.50 a day for grape pickers.

Forest fires have been raging in sections of the San Joaquin valley this week and much valuable timber has been destroyed in the hills.

More than \$20,000 worth of lots in the town of Corcoran were sold last week. The new sugar beet factory has caused a boom at Corcoran.

Grasshoppers which have done much injury to alfalfa fields in Stanislaus county, are dying off in great quantities, supposedly from parasitic poison of some nature.

In the San Joaquin valley, all fruit crops have been big this season, except apricots, almonds and cherries, and it is estimated that the returns to the growers will be 25 per cent greater than last year.

R. S. Ralls, a Delano resident, believes he has discovered the road to wealth in a rich borax ledge which he has found in the hills east of Porterville and which he values at \$500,000, so says the Bakersfield Echo.

The grape yield in the San Joaquin valley has been very heavy this year, but the scarcity of pickers has been a drawback. There, as elsewhere in the State, the Japanese who contracted to do the work at certain prices, waited until the grapes were ready and then demanded from 75 to 100 per cent more pay. In some places where the different varieties ripen at different times the growers have formed a co-operative working force, all using their available force to pick the crop of one man when it is ripe. By this method it is possible to pick each crop just when it is ready.

Southern California

Anthrax is appearing in a dairy herd in Yucaipa valley.

The celery crop of Orange county is promising, exceedingly well and early maturity is promised.

The Celery Growers' Association is in better condition than ever before and will handle a large crop.

Less than one hundred cars of oranges now remain in Southern California for this season's shipment.

With a slight increase in price for beef, and the prediction for still greater price, the stock industry will doubtless receive an impetus.

San Dimas Lemon Association has shipped a carload of lemons to San Francisco and from that point they will be reshipped to Japan.

A large fruit buyer at Redlands, after a look over Southern California, reports a fine quality of crop setting, also that the quantity will be fair.

Commissioner Cundiff, of Riverside, has worked out a formula for new emulsion, which is said to be cheaper and more effective than any heretofore used.

Rangers in the forest reserves claim that great damage is done by the tree squirrels digging and destroying acorns and other nuts planted by foresters.

Recent frosts in the mountain apple growing districts back of Redlands caused some concern as to damage to the crop, but "no damage" is the report to this date.

Special Agent Woglum of the Bureau of Entomology is to conduct a series of experiments in fumigation which it is hoped will lead to large advantages to those compelled to fumigate.

Ranchers of Districts No. 6 and 8 in Imperial valley, which is cut off from the irrigation supply by last winter's floods are preparing for water which will arrive in a short time.

An announcement is made that the State Board of Fish and Game Association will use hunters' license money in introducing of wild turkeys in the forest reserves of Southern California.

Glendora Citrus Fruit Association shipped two hundred and ninety-one thousand boxes of oranges the last season and paid to the grower \$276,000. Packing and other expenses amounted to \$70,000.

The display of products from the irrigated districts, outside of California, was very meager at the National Irrigation Congress. Oregon, Utah and Idaho were the only States to send exhibits.

The tomato harvest in La Habra and East Whittier districts will begin Sept. 15. There are about six hundred acres planted in that district. Last year's price averaged \$40 per ton. One hundred thousand is the expected return from this section.

The Coachella Valley News has compiled some interesting statistics regarding the output of that section and among them we note: 63,000 crates of cantaloupes, 27,500 crates of onions, 220 tons of cabbages, 4400 crates of squash, 16,000 crates of tomatoes, 6000 crates of cucumbers, 424 sacks of beans, 4256 crates of grapes. The aggregating value is about \$150,000.

The Coast

The peach crop around Roseburg, Oregon is very heavy.

Spuds are selling at Portland at \$1.00 to \$1.25 per sack.

The Eugene cannery is paying \$30 per ton for Bartlett pears.

New Zealand exports butter to the extent of \$10,000,000 a year.

The grape crop of the Willamette valley has some of the finest in years.

At Coleville, Washington, a heavy rain ruined much standing and cut grain.

Eastern buyers are readily taking up all of Oregon's offering of wool at good prices.

One hundred and seventy thousand bales of hops is said to be the output of Oregon this season.

Oregon's output of wheat amounts to fourteen millions of dollars while that of her fruit four millions.

Unless prices change many fields of hops will be left to rot on the vines in Yakima, Washington.

North Yakima ranchers are clamoring for more water from the irrigation company which supplies that section.

It is estimated that fifty thousand bushels of grain were injured at Cunningham, Washington, in the recent storms.

The Cascade and Heppner reserves in Oregon are soon to be thrown open to settlement. The distribution will be by lottery.

The largest single deal in ranch lands in Montana was the recent sale of twenty-six thousand acres of sheep ranch at \$10 per acre.

A government agent is in the field near Pullman, Washington, overseeing the threshing of timothy, which seed the government is buying in large quantities.

An immense party of claimants for land in Northeastern Washington, stood in line recently in order to secure a part of lands thrown open by the government.

Thirty acres of wheat, yielding 90 bushels to the acre, has been raised and is being harvested in the little town of Juliaetta, 15 miles from Lewistown, Idaho, although nearly one-half of the crop was winter killed.

The crop of hops in Oregon is said to be very heavy and prices thus far have run low, many contracts being made at nine cents. At present, however, growers are standing together and it is confidently expected a higher price will prevail.

The crop this year is estimated to be the largest in the history of the section on the Nez Perce prairie and down in the Idaho county grain lands. The total crop in the Lewistown country has been conservatively estimated at 10,000,000 bushels for this

Three years ago A. Adams brought from British Columbia to Lewistown, Idaho, a single head of wheat. This he sowed and reaped about a quart of grain. The second season Mr. Adams secured enough to sow a quarter of an acre and the third season had secured enough grain to scatter very thinly over 30 acres. Nearly 50 per cent of this was winter killed, but from the 30 acres he will harvest 2700 bushels, or an average of 90 bushels to the acre.

PER
1 BUSHEL
SACK

\$1.90

PER
2 BUSHEL
SACK

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YOU WILL FEED NO OTHER.

Used by all largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledge standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis Worlds Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland.
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis and Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

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Main Office and Factory, Petaluma, Cal., Box F.
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Beef Scraps Raw Bone

GUARANTEED ANALYSIS:

Protein 65%
Fat 8%

Made of Cooked and Dried Livers, Lungs, Melts and Clean Scraps. No fertilizer ingredients in these Beef Scraps.

Pure, Clean Animal Matter Poultry Foods

WESTERN MEAT COMPANY SOUTH SAN FRANCISCO CALIFORNIA

GUARANTEED ANALYSIS:

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Made of Clean Beef Bones, surplus fat removed. Cleanest Raw Bone on the Market.

Lincoln Avenue Poultry Yards

—Capt. Mitchell's S. C. White Leghorns—

Utility birds of the highest grade. They will average from 150 to 280 eggs per year. The eggs will average 2 ounces and over in weight, with smooth, white shells.

Just a few breeders left at half price. **Positively no culls.**

Carl C. Curtis, Owner

Ranch Mirasol

Lincoln Ave. and Ventura St., Pasadena, Cal.
ALTADENA CARS

A GOOD TONIC

ACME ROUP CURE CURES

FEED TO YOUNG CHICKS WILL KEEP THEM HEALTHY AND VIGOROUS; THE OLD FOWLS WILL MOULT QUICKER AND EASIER; PULLETS WILL LAY EARLIER AND LONGER

LEE'S EGG MAKER

IS THE BEST TONIC MADE

LEE'S LICE KILLER

IS GUARANTEED

HENRY ALBERS CO.

315 SO. MAIN, LOS ANGELES

Beef, Blood and Bone Will Make Your Hens Lay

This is not a medicine but a high grade nitrogenous food. Write for free booklet, "How to make Hens Lay." Our Poultry Foods are sold by all local dealers and manufactured solely by

The Pacific Guano and Fertilizer Co.

Also Pioneer Manufacturers of High Grade Indiana and Yolo Sts., San Francisco, Cal. *crillmoro.* Write for our free booklet, "Farmer's Friend." Valuable to all farmers and ranchers.

Profit in the Poultry Yard

We solicit short articles of a practiced nature from the fancier and utility breeder, giving their experiences with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

POULTRY AT CALIFORNIA STATE FAIR.

THE exhibition of poultry this year at the State Fair was a fine representation of the poultry industry of the Pacific Coast. Although the fair was held at a time (Sept. 9 to 14) most unfavorable to both old and young stock, yet we found many specimens that were in good show condition.

When we go into our yards and see the ragged condition of our breeding stock, and the unfinished appearance of our young birds we wonder how any one could make a show so early in the season. But there is the breeder who always has out his early birds and who takes special care to condition his old stock that he may be able to take advantage of the early show and either furnish or show the prize winners.

New Building for Poultry.

The management of the fair told us this year that they were going to make this the best yet and they "made good."

Heretofore, the poultry has always been cooped at the pavilion in Capital Park, but by good management and hard work of the board it was able to secure an appropriation for a building and coops for the poultry exhibition, which was erected in Agriculture Park. While the appropriation was too small to erect a building suitable for the poultry exhibit, yet by the generosity of the public-spirited merchants of Sacramento who furnished material at actual cost the State has today one of the best appointed houses for the exhibitions of poultry on the coast. No money was wasted in making a showy or pretentious building, but every effort was made to have perfect light and ventilation, and we wish to congratulate the committee in charge for its efforts.

Exhibit.

As was expected, the Leghorn class was the largest in the show, which was headed by the Whites containing 111 birds, all good ones, too. The winners could have been taken out of the class and we would have still had a strong class. The first prize cock, though not quite at his best was pronounced by Judge Berrar as the best and most typical Leghorn ever shown in California. The bird was pure white with good head points, fine carriage and well finished. The first cockerel, another splendid bird, was large and well developed and in good show condition. First hen, another grand specimen, pure white, good carriage; splendid head points, good back, and tail carried at the right angle. First pullet good, fully developed and at her best.

Barred Rocks was another good class showing many well developed, well conditioned birds, with honors well divided.

Orpingtons, another large class containing many choice specimens. The Buffs were especially worthy of mention, and contained many old campaigners and prize winners. A bird to win in this class had to be above the average.

The Polish and Hamburg classes were well represented and, as a whole, made a splendid showing.

Bantams were one of the attractions of the show and were represented by many varieties, comprising Golden Sebrights, Silver Sebrights; White Polish; Buff, White and Black Cochins, Black Breasted Red, Red Pyles, Golden and Silver Duckwing Games and Japanese Silkies. The exhibit was above the average in both quantity and quality.

Awards.

Light Brahmas, Mrs. E. F. Reid: Cock 1, 2 and 3; Hen, 1 and 3; cockerel, 1, 2 and 3; pullet, 3; pen, 2 and 3. Mrs. F. M. Newbert, hen 2; pullet, 1 and 2; pen, 1.

Barred P. Rocks, Ivy Green Poultry Farm: Cock 1; cockerel, 3. Mrs. D. A. Robertson, cock, 3; cockerel, 2. M. Bassett, cock, 2; hen, 1, 2 and 3; pullet, 3; pen, 1 and 2. T. J. Simpson, cockerel, 1; pullet, 1 and 2.

White B. Rocks, T. J. Simpson: Cock, 1; pullet, 1 and 2. H. A. Land, hen, 1, 2 and 3.

White Wyandottes, James Stanfield: Cock, 1; hen, 1; pullet, 3; pen, 1. C. R. Fontana, cock 2; hen, 2 and 3; cockerel, 1 and 2; pullet, 1 and 2.

Partridge Wyandottes, M. Coffey: Cock, 1; hen, 1 and 2.

Columbia Wyandottes, A. W. Casselman; cock, 1; pen, 1.

S. C. R. I. Reds, J. D. Canney: Cock, 1, 2 and 3; cockerel, 1, 2 and 3; hen, 1 and 2; pullet, 1 and 2; pen, 1 and 2. Sanitary Poultry Farm, hen, 3; pullet, 3.

Buff Orpingtons, G. W. Gessner: Cock, 2 and 3; cockerel, 1, 2 and 3; hen, 1, 2 and 3; pullet, 1 and 3; pens, 1, 2 and 3. Martin, cock, 1; pullet, 1.

White Orpingtons, G. E. Meadows: Cock, 1 and 2; pullet, 1.

Black Orpingtons, G. W. Gessner: Cock, 1 and 2; cockerel, 1; hen, 1 and 2; pullet, 1 and 2; pen, 1.

S. C. Brown Leghorns, Percy Ward & Sons: Cock, 1; hen, 2; cockerel, 1; pullet, 2; pen, 1. Geo. Colby, hen, 1; cockerel, 2; pullet, 1 and 3.

S. C. Buff Leghorns, Percy Ward & Sons: Cock, 2; hen, 2 and 3; pullet, 1. J. S. Meadows, cock, 1; hen, 1; cockerel, 1 and 2; pullet, 1 and 3; pen, 1.

S. C. W. Leghorns, F. E. Baldwin: Cock, 1 and 3; cockerel, 2; pen, 1. C. B. Carrington, hen, 3; cockerel, 3; pen, 3. N. T. Carpenter, pullet, 1. Geo. Colby, pullet, 3; hen, 2. Mrs. F. M. Newbert, cock, 2; cockerel, 1; hen, 1; pullet, 1; pen, 1.

R. C. W. Leghorns, Lorenzo Hurd: pen, 1 and 2.

Anconas, Percy Ward & Sons: hen, 1, 2 and 3; pullet, 1 and 2; pen, 1.

B. Minorcas, M. Bassett: Cock, 1; hen, 1 and 2; cockerel, 1 and 2; pullet, 1, 2 and 3; pen, 1.

Wh. Minorcas, G. L. Meadows: Hen, 2. James Cecil, cock, 1; hen, 1; cockerel, 1 and 2; pullets, 1; pen, 1.

Blue Andalusians, L. A. Wilson: Cock, 2; hen, 1; pen, 1; cock, 1;

hen, 2 and 3; cockerel, 1; pullet, 1 and 2.

W. F. Black Spanish, R. A. Rowan: Cock, 1 and 2; hen, 1, 2 and 3; cockerel, 1; pullet, 1 and 2.

W. C. Black Polish, Mrs. D. A. Robertson: Cock, 1, 2 and 3; cockerel, 1, 2 and 3; hen, 1, 2 and 3; pullet, 1, 2 and 3; pen, 1 and 2.

Bearded Golden Polish, R. A. Rowan: Cock, 1; hen, 1, 2 and 3; cockerel, 1 and 2; pullet, 1, 2 and 3; pen, 1.

Bearded Silver Polish, R. A. Rowan: Cock, 1; hen, 1; pullet, 1; cockerel, 1; pen, 1.

Silver Spangled Hamburgs, R. A. Rowan: Cock, 1; hen, 1, 2 and 3; cockerel, 1 and 2; pullet, 1. Geo. B. Burtch, cock, 2.

Black Hamburgs, R. A. Rowan: Cock, 1; hen, 1, 2 and 3; cockerel, 1; pullet, 1 and 2.

Hondans, G. S. Meadows: Cock, 3. Mrs. E. F. Reid, cock, 2; hen, 2; cockerel, 2; pullet, 1, 2 and 3. Caselman, hen, 1 and 3; cock, 1; cockerel, 1; pullet, 1.

B. B. R. Game Bantams, M. Coffey: Cock, 1; hen, 1; cockerel, 1, 2 and 3; pullet, 2. Geo. Burtch, pullet, 1 and 2; pen, 1. G. S. Meadows, cock, 2; hen, 2.

Silver Duckwing Game Bantams, Geo. Burtch, cock, 1; pullet, 1, 2 and 3; pen, 1.

Red Pyle Game Bantams, R. A. Rowan: Cock, 1 and 2; hen, 1, 2 and 3; cockerel, 1 and 2; pullets, 1, 2 and 3; pen, 1.

Cornish Ind. Games, Percy Ward Sons: Hens, 1 and 2; pullets, 1.

Golden Sebright Bantams: Ivy Green Poultry Farm: Cock, 1; hen, 2 and 3; cockerel, 1, 2 and 3; pullet, 1, 2 and 3; pen, 1. Geo. B. Nugent, pen, 3; cock, 3. Geo. Burtch, hen, 2; cock, 2.

Silver Sebright Bantams, R. A. Rowan: Cock, 1, 2 and 3; hen, 1, 2 and 3; cockerel, 1 and 2; pullet, 1, 2 and 3; pen, 1.

Lt. Brahma Bantams, Geo. Burtch: Cockerel, 1; pullet, 1 and 2; pen, 1.

Buff Cochins, James Stansfeld: Cock, 2; hen, 2; cockerel, 2; pen, 1. Geo. Burtch, hen, 1; pullet, 1. Thos. S. Stillwell, cockerel, 3; hen, 3; pullet, 2. R. A. Rowan, cock, 2 and 3; cockerel, 1; pullet, 3.

White Cochins, Geo. B. Nugent: Cock, 1, 2 and 3; hen, 1, 2 and 3; pullet, 1, 2 and 3; cockerel, 3; pen, 1, 2 and 3. Geo. Burtch, cockerel, 1 and 2.

Black Cochins, Geo. B. Nugent: Cock, 1 and 2.

W. C. W. Polish Bants, R. A. Rowan: Cocks, 1, 2 and 3; cockerel, 2 and 3; hens, 1, 2 and 3; pullets, 2 and 3; pen, 1.

Indian Runner Ducks, M. E. Plan: Hen, 1 and 2. G. L. Meadows, 3.

Buff Orpington Ducks, M. E. Plan: Hen, 1, 2 and 3.

Alesbury Ducks, Huntley: Old birds, 1, 2 and 3; young pair, 1, 2 and 3.

Best display of incubators, awarded Petaluma Incubator.

Best display of brooders, awarded Petaluma Incubator Co.

ECHOES FROM THE ALLEYS.

B. Carrington made a splendid exhibit of White Leghorns. Her 3rd prize pen was easily the best pen in the show, but had to be placed at the bottom on account of male head-pen carrying tail to one side. We do not consider him as having a rye tail, but a weakness and the judge

could not do otherwise than leave the pen third.

M. Basset, of Hanford, made good winning on the Barred Rock class, carrying off two blue ribbons and a number of second and third prizes. He also won on Black Minorcas.

Mrs. E. T. Reid of San Francisco, showed a fair string of Light Brahmas.

R. A. Rowan, of Pasadena, whose exhibit contained 112 birds carried away many regular and special prizes. The exhibit was in charge of S. Tyler the veteran judge and breeder.

Mr. Huntley of Petaluma, exhibited some of the finest Alesbury ducks that we have seen. This breed, no doubt, is new to many, yet it is one of the oldest English varieties. It is one of our largest and stands at the head for marketing purposes.

Mrs. F. M. Newbert, of Sacramento, sprung a surprise in the White Leghorn alley, by winning four first prizes. Mrs. Newbert's success is the result of hard work and study. Her birds are the true Leghorn type.

W. S. Sullivan, better known as Buff-Orpington Sullivan, took about everything in sight on his buffs. He not only knows buffs, but knows how to mate, breed and condition a bird for the show room.

Petaluma Incubator Company made a good exhibit of incubators, brooders and appliances, winning the award for best exhibit.

Frank E. Baldwin, San Jose, Single Comb White Leghorn specialists, was one of the happy exhibitors of the show, winning 1 and 3 cock, 2 cockerel, 2 pens. Mr. Baldwin made an exhibit of 31 birds, not a bad one in the lot. We are glad to reproduce for our readers, pictures of Mr. Baldwin's second prize cock and second prize cockerel. We are sorry that we could not give a picture of the first prize cock; he, like the second cockerel, was not at his best, but shows splendid form and when his tail is a little more developed will show much better. This bird has almost perfect head points, good yellow legs, is strong and vigorous. The third cock was another good bird, though not so good in comb.

While Mr. Baldwin breeds exhibition birds, he does not neglect the utility side. His houses and yards are considered the most practical that we have today, he uses the open front house with two yards to each house; in one he grows wheat while the birds are kept in the other. When the wheat is about 6 or 8 inches high the birds are turned on it, and wheat is sown in yard number two. This always keeps the ground nice and fresh as well as supplying an unlimited amount of green food for his birds.

Mr. Baldwin's ranch comprises 3 acres all yarded and devoted exclusively to poultry. He has at present about 1500 birds.

As a whole the exhibitors were a fine representation of the industry, not a "grouchy" one in the whole bunch. The judging was done by Judge Henry Berrar, of San Jose, Robert Venn of Fresno, Mr. Mitchell of Sacramento and Frank H. Thomas of Los Angeles.

MONTHLY MEETING LOS ANGELES COUNTY POULTRY ASSOCIATION.

The regular monthly meeting of the Los Angeles County Poultry Assn., was held at Unity Hall, Sept. 7th. President Sly called the meeting to order at 8 p.m. There were about fifty present, one-third of whom were

Hen Fruit Pays. If you want more, feed

Egg-More

Poultry need to be fed a scientifically balanced ration as much as any other stock. Egg-More is just the thing to mix with good grains to make the same a rightly balanced ration. It is highly nitrogenous, very rich in protein, will keep the hen in good health, sustain her system properly, and enable her to lay lots of eggs when they are scarce and high. Just a little fed daily with good grains, or even with bran, as directed with each package, will do it. It can be fed either dry or as a mash. It contains no cheap filler; the hens like it, they eat it, there is no waste. It makes the cheapest Egg Food especially if you can buy your grains at home cheaper than to ship them in. Many so-called "poultry foods" and "egg-makers" are nothing but stimulants and not advisable to be fed regularly. Egg-More is not a strong tonic and stimulant, but merely contains enough condiments to give the food relish and keep the fowls in fine fettle. It will pay its cost many times over in the increased egg yield. 4-lb. package, 35 cents; 25-lb. pail, \$2.00; 50-lb. sack, \$3.75. If your dealer doesn't keep it, we will deliver a pail or sack freight prepaid by us.

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We are the pioneer hatchers in this section. Chicks can be shipped 1,000 miles without loss. Our chicks are hatched in a 25,000-egg incubator and are strong and healthy. We make no extra charge for crating and can sell cheaper than any others in this line. Write us for prices on any Standard Breed in any quantity. Eggs from all breeds. Incubator Lots a specialty.

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Principal Incubator Co., Grafton, Cal.

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Newest, finest largest, and most central store. Prices the very lowest. Come and see.

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Spargur's Trap-Nested White Leghorns

Laying Pullets six and seven months old from above hens, at \$15.00 per dozen. Also I. R. Ducks and Drakes at \$9.00 per dozen.

H. G. Spargur, Soquel, Cal.

WHITE WYANDOTTES THAT WIN AND LAY

\$15.00 and Up Per Dozen

Mammoth Bronze Turkeys Reasonable. Lakenvelders, per pair, \$8.00; trio, \$10.00.

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BARRED ROCKS EXCLUSIVELY

Send for Sixteen-Page 1906 Catalogue

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BOX O

Baldwin's White Leghorns

Fine youngsters at reasonable rates. Good older stock cheap to make room. Full description of stock and price list mailed free on application.

Frank E. Baldwin

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White Wyandottes Hubbard Stock

Baby Chick, \$2.25 dozen. Eggs half price, \$1 per 15, \$5 per 100. January pullets laying when 17 weeks old. CANNON POULTRY COMPANY 2851 Morgan Avenue, Los Angeles, Cal.

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Cash with Order.

Susan H. McPherson

Chula Vista, San Diego County, Cal.

Black Minorcas Exclusively

Show Record at Los Angeles, January, 1907, 5 First Prizes, 4 Seconds, 4 Thirds, 3 Fourths, 3 Fifts. Also two Silver Cups. They will make money for you. Stock and eggs for sale. Catalog free.

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SHADE'S RHODE ISLAND REDS

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ladies. One of the pleasant features of these meetings is the large attendance of ladies. The meeting was a very pleasant and instructive one. President Sly called upon Mr. William H. Humphrey for the first address. Mr. Humphrey's subject was, Soil, Climate and General conditions for poultry culture in and about Los Angeles. His talk was very useful to those who were looking for locations and very instructive and entertaining to all. We will not attempt to quote from his address as we could not do it justice, but suggest that the reader attend the next meeting and hear Mr. Humphreys who will speak again. The second speaker was Mr. Chas. H. Kline of Burbank, he told how he had started in the poultry business with a small capital and how he had persevered until he had built it up to its present condition. This year he stated he had hatched some 15,000 chicks, and cleared over \$1700, mostly from sale of eggs. He keeps the White Leghorns. His talk was practical and encouraging and was enjoyed and appreciated by all. Mr. Schofield of the Gardena Hatchery gave a short talk and invited all interested to visit his place. He said he was conducting it upon entirely different principles from anything of the kind in the United States. Mr. Schofield will be one of the speakers at the next meeting, and Mr. McLaughlin also will give his experience in hatching thousands of chicks.

These talks should not be missed by anyone interested in poultry. Others gave short talks and the chairman requested those who desired to ask questions of the speakers.

Many availed themselves of the opportunity.

The next meeting will be held in October, the time and place will be announced later in the Cultivator. The following program has been arranged by Secretary Hubbard.

MRS. A. BASLEY—A Talk on Poultry.

MRS. C. D. HUBBARD—Building an Adobe Incubator, and Running it.

WM. M. HUMPHREY—How to pick out, condition, and prepare your show birds for the next big show.

F. T. M'LAUGHLIN—White Wyandottes and how to raise thousands of chicks profitably.

JOHN D. MERCER—Indian Games.

MR. SCHOFFIELD—Of The Gardena Hatchery—Brief report on how first big hatch of season came off.

C. D. HUBBARD—Brief report on the progress the directors have made toward the next show. Dec. 5-14, 1907.

Free distribution of a few Poultry magazines.

THE SOCIAL HOUR, devoted to getting acquainted.

L. D. HADLEY, Solo, "The Call of the Turkey."—John D. Mercer.

CHICKEN POX.

The following article by Mr. Hawkins was inadvertently omitted from our last issue.

Numerous inquiries are reaching me concerning a disease not uncommon at this time of year—Poultry Favus—or what is usually known amongst poultry keepers as chicken pox. As the outbreak this year is apparently so widespread, it would appear opportune to briefly describe the symptoms and methods of treatment, as by neglecting the disease in its early stages the birds become emaciated and fail to respond to treatment.

One of the principal causes of this complaint is that of over-crowding in damp or filthy runs and houses. The disease usually attacks young birds, especially those hatched late. It rarely affects adult birds; and the breeds which are most subject to it are: The Cochins, Brahma, Orpington and Wyandotte, and very often those breeds which carry heavy combs, such as the Leghorn, Minorca and Dorking. Many fine specimens of the latter breeds lose the tip of the spike, especially if the affected birds are not hobbled. The disease is one that greatly irritates, and the more the birds scratch the parts affected, the more rapidly do the spores spread, until the birds become a mass of sores or, what appears to the casual observer, warts. The first symptoms which every amateur may detect are loss of appetite and a great thirst. The birds should at once be isolated and allowed no water for two days at least, and be given only soft food (pollard and bran moistened with skim milk) and plenty of finely cut raw onion.

Minute, pale yellowish spots, cup-like but irregular in form, appear on the comb, often on the wattles and at times on the eyelids. The latter are the most troublesome to deal with,

and it is absolutely necessary that the birds should be hobbled. This can be done by tying a piece of tape around the ankle—the joint just above the foot, and below the fourth toe—except those breeds having five toes such as the Faverolle, Dorking and Houdan breeds; in these cases the tying should



Second Prize Cockerel

California State Fair

Bred and Exhibited by Frank E. Baldwin

be between fourth and fifth toes so as to prevent the tape slipping up the shank.

Remedy: Bathe the head and face with a weak solution of permanganate of potash. Make a paste of the following and apply to all parts affected:



Scene on Frank E. Baldwin's Poultry Farm

Sufficient sulphur to fill a small pill box, enough boracic acid that will go on a threepenny-piece and five drops of eucalyptus oil with sufficient soft soap or vaseline to make a paste, mix thoroughly together and apply with a small camel hair brush. Do not allow the hands if cut or scratched to come in contact with the crusty wart. A good and safe preventive from contagion is to use an antiseptic, consisting of either a three per cent solution of phenyle or lysol, in which the hands should be rinsed. All houses should be thoroughly fumigated with burnt sulphur and floors sprinkled with lime. With care there need be little to fear, but children should on no account be allowed to handle the fowls so affected, neither should any person with an injured finger, as the disease is far from pleasant. The irritation and sudden sickness which follow are most distressing. Four or five days will effect a cure when it will be seen that the crusts will fall off and the birds' appetites will return. A tonic in the water should at once be given viz.: To two gallons of water add 80 to 90 drops of sulphuric acid (poison) and one and one-half to two ounces of sulphate of iron; allow same to remain a few hours, after which stir well and give all the birds

on the farm as much as they will readily drink. This will prevent the disease spreading and will tone up the flock.

Although the complaint is not serious, yet if neglected it is sure to turn to that dreaded disease—roup—attacks of which are more often fatal than any other ailment of poultry in Australia. Damp houses are the primary cause; crowded yards, such as are often noticeable in our suburban areas, are also responsible for serious complaints, especially at this time of the year. I would again turn my mind to the absolute necessity of sweeping up the droppings daily and of the urgent necessity of sprinkling lime about the yards; more than twenty birds should be kept in a yard of less than 50x25 feet, at least, the more crowded they are the less profitable will they become. Remember, that a few good birds of noted laying strain will return a greater number of eggs than a large flock kept together. This has been exemplified over and over again, in the egg-laying competitions throughout Australia. To those desirous of keeping a few birds to supply the household with quail eggs, I cannot do better than urge them to secure a brood hen as soon as possible, and thus secure the early chick and immunity from chicken pox.—Journal of Agriculture of Victoria.

POULTRY AND FRUIT.

A combination of fruit growing and poultry raising is especially recommended in a bulletin from the Pennsylvania Department of Agriculture. Locate the poultry houses, if possible, so that the runs will be in the orchard. The fowls will destroy

thousands of harmful insects, thus greatly benefiting the trees and increasing the prospects for fruit, and the fowls will at the same time gain great comfort and benefit by the pro-



John L. Jr.

Third Prize Cock

Bred and Exhibited by Frank E. Baldwin

teeting shade of the trees. Plum trees and cherry trees are especially benefited by the presence of fowls about their roots. Peach trees will grow most rapidly and soonest give an abundant shade.

Bees and Their Care

FORCED SWARMING.

EXCELLENT results are often obtained by swarming the bees in this manner: After you have had your first natural swarm or two, and you are sure that swarming time has arrived and you do not wish to watch a month or more for swarms, just finish them up in a day or two. Go to the hive that you have decided to swarm artificially and remove it from its stand, putting in its stead a hive containing four or five frames with only starters of foundation. Place over this a queen, excluding honey board and super of section boxes. Next take the combs from the old hive and shake the bees from them down in front of the new one. You can shake the frames quite free of bees, leaving only a few of each frame to care for the larvae. There will be hundreds more hatched out before night. After brushing all the bees out of the old hive replace the frames of brood and set it to one side. Four or five of these hives of hatching brood can be placed on top of each other to retain the warmth should the night be cool.

A few days later queen cells can be taken from the parent hive and those which have swarmed naturally and distributed among the other hives, at this time setting each hive on a stand by itself. I finished a yard of 60 colonies up in just a week by this method and have obtained better results than if I had waited for the whole to swarm naturally.

It sometimes happens that these forced swarms decline to "stay put," especially if they are just on the verge of swarming. Then it will be necessary to give them a frame of partly unsealed brood. These swarms are compelled to take the honey up into the sections where it is wanted.

If you wish to know whether a colony is preparing to swarm by building queen cells, or if you wish to cut out cells from a colony that has swarmed, instead of taking out each frame, set the hive upon end and kneel down in front of it. Most of the cells are on the bottom of the combs. You can drive the bees back with a very little smoke and easily see two-thirds of the way up between the combs. It is very seldom that a queen cell is further up than this. If one is, you can see it by looking down from the top. If you wish to cut out the cell, you can do it in this way with less than one-fourth the work and time required in taking out each frame, and also make a sure job of it, or in handling the frames the bees, unless we brush or shake them off, are in our way, especially on the bottom of the combs, where most of the cells are. This plan also disturbs the bees less. Anyone with a little practice can, in a hive with frames not deeper than the standard and having a narrow bottom bar, tell for a certainty whether there is a queen cell or not without removing a frame. This cannot be done with loose frame, unless they are held by spacing trips.—Coleman's Rural.

THOSE AWFUL QUEENS.

How in the world comes it that scarcely a single one of all those queen cuts printed by queen breeders and bee journals is anyways really representative of the creature? In he cuts the antennae mostly run in a steady curve from beginning to end—in nature, and at rest, they grow out nearly straight for about one-

third of their length where there is a very well defined joint from which the rest, about two-thirds, continues at a more or less pronounced obtuse angle, directed downwards and outwards. And then the head—in the pictures it looks like a cork protruding about half way out of a beer bottle. It's the legs, though, that take the prize. Out in the canyon there is a spider, blue-black and ugly, well, it's her legs the engraver has engraved onto the queen, except for those sailor hooks at their ends, they seem to be the creation of his own genius exclusively. And a torpedo boat appears to have done service as model for her posterior terminus, only—probably to have things in harmony with the rest of the crazy scheme, the stern of the one is fashioned after the bow of the other, and the bow after the stern. Indeed, from a distance the thing might be imagined to represent a rowboat in active operation, with its oars and steering gear "pulling for the shore."—Henry E. Horn.

"STOMACH-MOUTH" OF THE BEE.

Schoenfeld made the discovery that there existed a peculiar organ in the honey-bee between the honey-sac and the true stomach called "stomach-mouth," a four-lipped opening or rather valve with a protruding neck which may be shoved forward through the honey-stomach and brought into connection with the esophagus or swallowing pipe. Thus nourishment may be taken in or passed out without emptying into the honey-stomach at all. It was supposed that the bee could pass the honey from the honey-stomach to the chylus—or true stomach through the "stomach-mouth," and many hold to that opinion now. Dr. Miller says in his comments in the ABC of Bee Culture, that the bee can do this and live a long time on the honey stored in the honey-stomach. This, however, is contradicted by many close observers of late. One writer says if the honey bee was enabled to live on the honey in her own honey-stomach she would in all probability not lay up any honey at all, but she must empty her honey-sac first before she can take food into the true stomach, thus she is compelled to hurry home and store the gathered nectar into the waxen cells. It is, therefore, probable that raw nectar is not taken into the true stomach neither for food nor for any other reason. The chemical change that occurs, when the nectar is transformed into honey, is probably the work of certain glands located along in the mouth and the honey is not used for food by the bee until it is thus transformed.

The lips of the "stomach-mouth" are fringed with hair pointing inward. It is said this hair acts as a strainer to catch and separate the pollen from the honey. But the gleaner of this cannot see how the pollen can be strained out of the nectar by this apparatus for, according to the above representation, this nectar does not pass through it at all without it went into the true stomach.—American Beekeeper.

The honey of Southern California will aggregate about 60 carloads this year. The price to producers will run between five and six cents for extracted as a rule.

The lowering water of the Colorado necessitates care on the part of ranchers in Imperial in the matter of irrigation.

PUMP IRRIGATION

AN I.H.C. ENGINE
WILL GIVE YOU ALL
THE HEAD YOU CAN
TAKE CARE OF



IF you have to depend upon the pump for irrigating your land, you must have a powerful engine.

Formerly irrigation on a large scale by pumping was thought to be impracticable. But that was before the days of the I. H. C. engines.

In building engines for irrigation purposes it is necessary for the designers to take into account the fact that water must be raised in quantities, and that frequently it must be raised to a considerable height.

The use of hundreds of I. H. C. engines by practical irrigators is evidence of how well these requirements have been met, and how well the I. H. C. engines are adapted for this special work.

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They do your pumping economically.

They run dependably with practically no attention.

Irrigators of large tracts of land must have an engine that is economical in fuel consumption. The I. H. C. engines have reduced fuel consumption to a very low minimum.

It isn't necessary to keep an extra man to attend to the engine. Only an occasional return to the engine is necessary, or a small boy can give it all the attention required.

If you have a lake or stream below your land, or ditch, just look into the matter and see how well an I. H. C. engine will solve your irrigating problem.

Vertical engines made in 2 and 3-Horse Power.

Horizontal (portable and stationary), in 4, 6, 8, 10, 12, 15 and 20-Horse Power.

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Deciduous Fruit Culture

ZANTE CURRANTS.

THE dried currant of commerce is not the dried fruit of currants as is frequently supposed, but is the product of a grape vine. Since the Thompson seedless has been so extensively planted in California, the market has taken large quantities of the dried product and the Thompson seedless makes a better quality of goods than much of the foreign material that is imported. The true Zante currant is grown in various parts of California, but not so extensively as the Sultana and Thompson. The latter is the most prolific of the three and makes the best looking dried fruit. The berries are larger and of an amber color.

The imported currants come principally from Greece and often the crop is damaged by rains during the curing season. This helps the California seedless grape growers during such seasons, but perhaps more benefit is derived by the California product getting a hold on the market. The product that is imported comes in barrels and with it sometimes a large amount of dirt. Even after such currants are washed they are unfit for use. This grade is of course, not the best or perhaps even the average, but it finds sale and the California product should and will in time take its place.

The true Zante currant is quite

widely grown in California and in some sections is very prolific. There are two varieties of this fruit, the white and black. The latter always bears a seedless grape of small size and can be relied on in this respect, but the black variety will often produce berries of large size and full of seeds. Often half of the berries on a bunch will be over size and full of seeds. It is worthless as a currant or for any other purpose.

While Thompson seedless is being placed before the consumer, as a substitute for the Zante, there is considerable difference in the flavor of the two. The Zante contains more acid than either Thompson seedless or seedless Sultana, which gives the peculiar tart flavor to cookery.

The California dried currant supply has heretofore come from the northern part of the State, but the desert regions have shown results that seem to forecast a strong competition with some advantage over the northern sections, in the matter of curing the crop.

NUTS.

The almond crop in various parts of the State bids fair to be heavy. No late frosts or unfavorable spring weather has interfered with the setting and trees which are seldom with a crop, are full this season. This is especially true in Southern California.

All nuts bring good prices every season and there is no reason why many irrigated farms growing alfalfa and various crops requiring irrigation, should not work in many nut trees along fence lines and irrigation ditches. We know of almond trees growing in the Sacramento Valley, that produce as large an income per acre as the alfalfa does. The trees provide shade for the stock during the hot summer and the nuts were gathered from the trees by knocking them off onto sheets in the usual manner without turning the stock out during the harvest season. We one time helped harvest a crop of almonds under these identical conditions. The almonds netted the farmer \$100 per acre that season and at the same time the land was used for alfalfa and stock. This is not usual, but it helps to keep the pot boiling. The trees were trimmed high so that the nuts could not be reached by the stock. We do not advocate handling orchards in this manner, but there seems to be no reason why pasture lands cannot be so handled with advantage to the grower. Stock should have shade and trees planted for shade can be made to more than pay their way.

When blighted portions are cut from twigs of trees they should be at once burned. The dead wood really contains no live blight spores, but the point where the living tree comes in contact with the dead part may.

FRUIT DRYING.

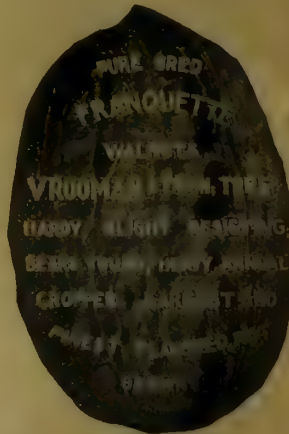
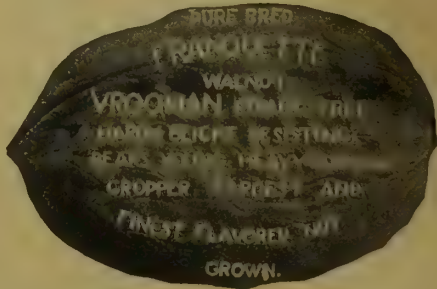
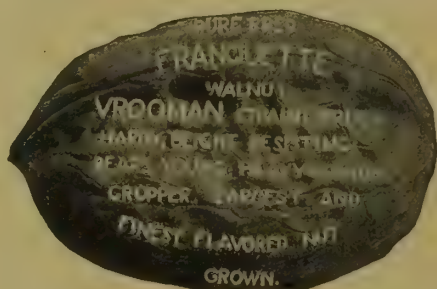
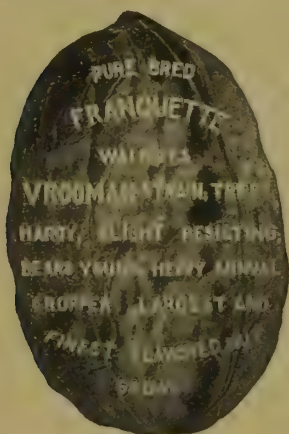
I have failed to see anything in the Cultivator about drying fruit. I am going to tell about my experience last fall and I have dried fruit for years, yet this was a lesson to me.

I risked putting in the bin a good many apples not thoroughly dried, thinking the ones that rattled would absorb the moisture from the wet ones. I found out that it is not a good plan when there are several tons in the bin. I believe it is good to have them so that they can be stirred occasionally. I did not leave room for this and was sorry for it afterwards.

I kept piling them up in a bin until I got ready to pack them, and the consequence was, when I got down to the middle I found my apples pretty soft, and some had moulded. Now, to look at the top of the bin they were the finest lot of apples I ever saw.

Do most people make a practice of stirring up their fruit, when it is in the bin and do people fumigate their apple houses to kill the worms?

I have heard people say they could not understand why their fruit became wormy so quick. I understand. It is because the old bins are full of worms all the time. If we tear one to pieces we will find them. They should be destroyed before new fruit is stored.—C. J. C., Sebastopol, Sonoma Co.



Record of Mrs. Vrooman's Franquette Walnut Grove Since It Began Bearing:

OREGON NURSERY COMPANY, SALEM, OREGON:

Gentlemen:

You ask me to give you a report of the increase of my Franquette walnut trees since they began to bear. Happily I have the figures at hand:

When 3 years old, 1901.....	82 lbs.
When 4 years old, 1902.....	520 lbs.
When 5 years old, 1903.....	3,700 lbs.
When 6 years old, 1904.....	6,000 lbs.
When 7 years old, 1905.....	12,325 lbs.
When 8 years old, 1906.....	24,314 lbs.

The output has practically doubled every year since the trees came into bearing.

(Signed) MRS. E. M. VROOMAN.

Walnutmere, Santa Rosa, Cal., Nov. 22, 1906.

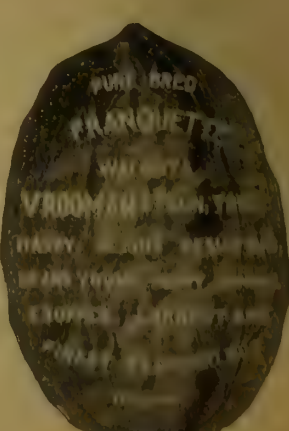
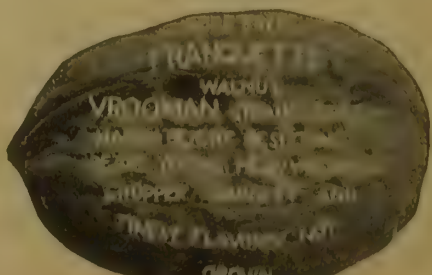
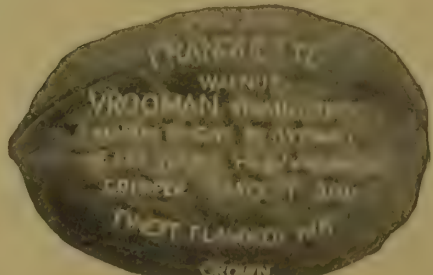
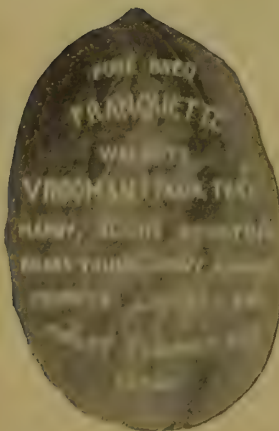
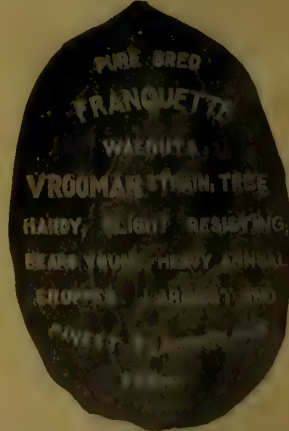
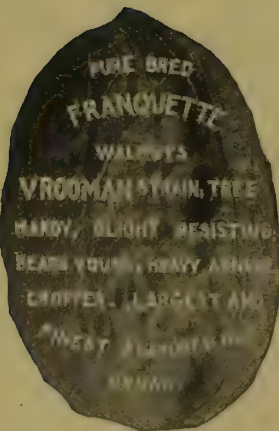
This 55-acre grove is planted with 1000 First Generation Franquette trees grafted in a direct line from the original Franquette tree in France and is the only large, grafted bearing walnut grove in the world from which seed stock and scions for grafting purposes can be secured.

We have contracted for the entire output of both nuts and scions for three years, which gives us absolute control of the product of this, the world's greatest, grafted walnut grove.

Last year, 1906, eight years from planting, we paid Mrs. Vrooman, \$6,140.-55 for the crop of nuts; over \$100 per acre.

Write for FREE BOOKLET giving full information of the LARGEST stock of FIRST GENERATION GRAFTED and SECOND GENERATION walnut trees in the world.

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REPORT ON PLANT DISEASES.

The Experiment Station Record refers to a valuable report made by Ralph E. Smith of work during 1906, the principal investigations having been made on pear blight, walnut blight, peach blight or shot-hole fungus, tomato diseases, and asparagus rust. In addition, investigations have been begun on rose diseases and citrus fruit diseases.

The pear blight work is largely in operation with the Bureau of Plant Industry of this Department, and consists in the application of the methods commended by that Bureau. A detailed account of the investigations in the different counties is given. It has been found that thorough winter pruning prevents blossom infection in the spring, and that the larger the district covered in the winter the less will be the infection the following season. Frequent and prompt summer cutting is to be practiced, and if not exposed to extremely abundant infection, a pear orchard can be profitably maintained in good condition. The walnut blight investigation has been a continuation of studies on the bacterial disease of walnuts due to *Pseudomonas juglandis*. Thus far the disease has proved difficult to control, as spraying experiments have not been very successful. The size of the trees made spraying almost prohibitive, on account of the difficulty and expense.

The beet blight described appears to be due to a derangement in the normal functions of the plant, and investigations seem to show that by attention to planting and cultivation in connection with weather conditions the disease may be largely controlled. The peach blight or shot-hole fungus reported upon is due to a species of *Coryneum*, and spraying with Bordeaux mixture proved quite efficient in controlling it. In addition to the peach, the almond is subject to this disease, and probably the fungus will be found to attack other stone fruits. The other investigations are briefly described, and the bulletin concludes with a list of the more common plant diseases that have been observed throughout the State, with notes as to their relative importance.

HOME-GROWN TEA.

The United States Department of Agriculture will shortly issue a Farmers Bulletin (301) entitled Home-Grown Tea, prepared by George F. Mitchell, Scientific Assistant, Bureau of Plant Industry.

The bulletin describes briefly the methods of growing tea plants and the handling of the same for the production of tea. A practical method is described for the making of tea from the fine leaf, using only such pieces of apparatus as are found in every kitchen.

The bulletin will be of particular interest to persons throughout the South who may desire to grow tea for home consumption. It is illustrated by four text figures.

Copies may be obtained by application to the Secretary of Agriculture, or to Senators, Representatives, and Delegates in Congress.

APPLE SHIPPERS.

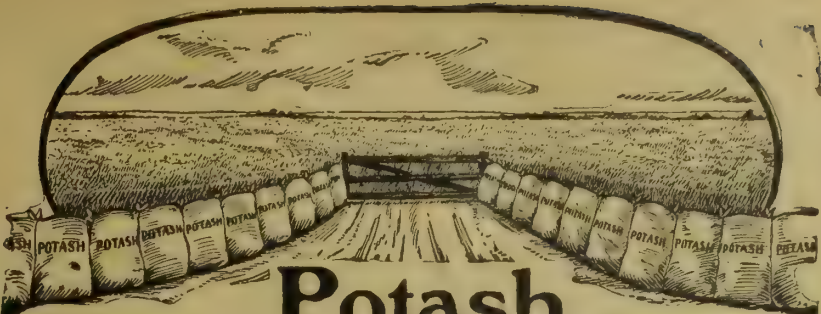
The thirteenth annual meeting of the International Apple Shippers' Association will be held at the St. Charles Hotel, Atlantic City, N. J., Wednesday, August 7th, 1907, for the election of officers for the ensuing year, and the transactions of any business properly coming before the meeting. There will be interesting addresses pertain-

ing to apple-growing, packing and marketing, committee reports, and discussions.

D. O. Wiley of Detroit, Mich., is President and A. Warren Patch of Boston is Secretary.

Now is the time to watch the yellowish white grub about one inch long which bores beneath the bark at the lower part of the trunk of the peach tree and about the roots. These grubs are larvae of winged insects, looking something like small wasps. If you see gummy material at the surface of the ground about the trunks of your peach trees, assume that the grub is working there. From June 1 to August is the season during which the grub is most active. Peach growers have learned to protect peach trees by removing the soil at the base of the peach tree, then winding stout paper about the lower part of the trunk as close to the roots as possible, thus keeping away the insects which lay the eggs which produce the grubs. But first the grubs must be removed that are already at work. Others place wire screens about the base of the peach tree.

The water-holding capacity of a soil depends largely upon its physical texture and is also influenced to some extent by the amount of organic matter present. For instance, a heavy clay soil containing a large amount of humus might hold thirty per cent of water and still be in workable condition, while sandy soil having ten per cent of water might seem very wet. It is, therefore, obvious that when success in dry farming depends upon the storage in the soil within the reach of plants of enough water to carry a crop to maturity, the water-holding capacity of the soil becomes a matter of the first importance.



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Grain can't grow without food. It must get it from the soil. It is for the farmer to see that his soil has enough of the right kind of plant-food necessary to the kind of crops he grows.

The fertilizer for Wheat, Rye and Barley should contain at least 6% Potash. Rather than risk an under-supply, mix Muriate or Sulphate of Potash liberally with the fertilizer before applying.

Send for our free books on growing grain. They won't give you theories, but facts on how the right use of Potash has turned poor soil into good soil, and made good soil better soil.

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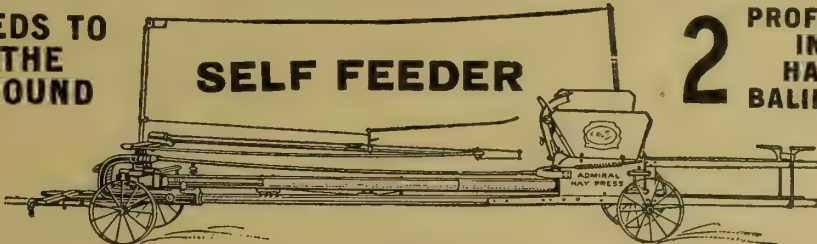
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2½ Tons per day for one week, 15 tons at \$1.50 net.....\$ 22.50
One month's earnings over the other press (26 days)..... 97.50
On an estimate of five months' work out of the year..... 487.50

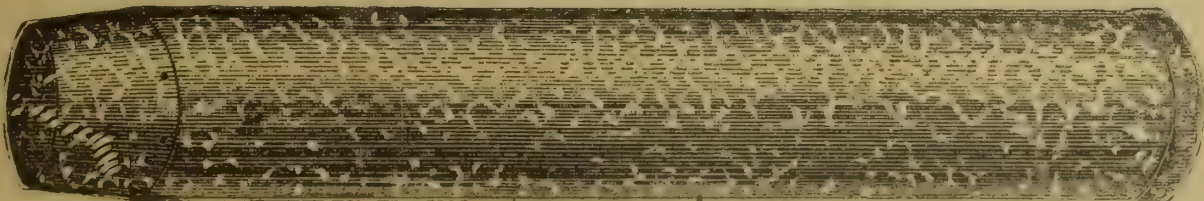
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H. E. COX, President



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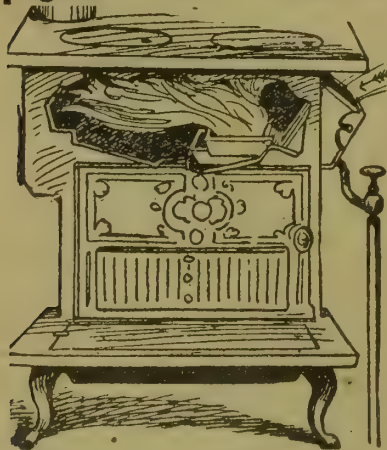
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People who are sick with dyspepsia, headache and biliousness, having yellow complexion and pimples, do not want to experiment, but want a medicine that has had the test of time. We have cured these diseases for 25 years with DR. GUNN'S IMPROVED LIVER PILLS. They drive out the cause of sickness, making the complexion clear and healthy. 25cts. a box at druggists, or by mail. Write Dr. Bosanko Co., Philadelphia, Pa. Sample Free. ONLY ONE FOR A DOSE

TUTTLE'S ELIXIR.

J. R. NEWBERRY CO.

Wholesale and Retail Grocers.

Los Angeles, Cal., April 26th, 1907.

Dr. S. A. TUTTLE

Dear Sir: Have used your Elixir on our horses for the past three or four years and have always found it eminently satisfactory. We are glad to recommend it to any one.

Yours truly,

J. C. Barnes.

Household Department

BEAUTY EVERYWHERE.

There is beauty in the woodland,
When the leaves are fair and green,
And the overarching branches
Make bright fairy bowers between;
Where the birds find place for nesting,
Where they trill their merry lays,
Making music, O, so charming!
Through the halcyon summer days.

There is beauty in the valley,
There is beauty on the hill,
In the orchard, field and garden—
Beauty, look where'er you will;
On the land and on the water,
In the soft blue sky above—
"O, the world is full of beauty
When the heart is full of love!"
—Selected.

THE GIRL WHO LAUGHED.

A GIRL was gathering roses in the yard as Morris Greene went by to his work. He was a carpenter and joiner, working in Mr. Mills' employ, and this girl who was gathering roses was Mr. Mills' daughter, Fleece. They called her Fleece because her hair was so fine and thick and blond and curling when she was a child—like a little lamb's wool. It was put now in a graceful knot at the back of her head, but was still all of a fleece over her brow and about the shell-like ears.

"Good morning," said Morris, looking at her with admiring eyes.

"Good morning—here's a rose for you," she answered and laughed.

That laugh! She was always laughing—giggling, the spiteful girls said. Just a little bubble and ripple of a sound, that she closed every remark with, whether grave or gay. It was a sweet, musical sound, and yet it always made Morris uncomfortable. He felt as if she were laughing at him. He was glad enough of the rose—she threw it at him over the yard fence, and he caught it dexterously in his left hand and almost involuntarily lifted it to his lips.

Then Fleece laughed again and ran up the path.

Morris walked on with the rose in his hand and love in his heart. Oh, yes, he did love her, but what was the use of it? If he told her she would laugh at him. She was not deep enough to understand a love like his—she was nothing but a pretty, shallow laughing creature, as full of fun and frolic as a kitten.

But he kept the rose all day long in the pocket of his coat. When the sun grew too warm and he threw the coat aside on a pile of lumber, he remembered to take out the rose and put it in his blouse. There his mother found it that night when she took the blouse to sew up a rent in the sleeve.

"What old flower is this?" she asked. "Shall I throw it in the wood box?"

Morris was lying stretched upon a lounge, reading a morning paper. Handsome enough he looked to please any girl's fancy in his bright dressing gown and slippers, one arm under his dark, fine head, the other holding the paper in an easy, graceful way. But the paper dropped and the dark cheek flushed hotly at this sudden question his mother had put.

"No," he said, "give it to me. I—I want to keep it mother."

The mother handed him the flower, and stitched away in silence for a moment. Then she said:

"Is it the love token of some girl, Morris? I think you might tell your mother if it is. I am getting old and weary, my boy, and very willing to resign my duties into younger hands.

We have a cozy home here, and a good enough one for any girl. If you bring a good wife home, Morris, no one will give her a heartier welcome than your mother."

"It was no love token, mother," Morris said gravely. "Only a rose that Fleece Mills tossed me as I passed by this morning."

"Fleece Mills is a vain, pretty giggling girl, Morris," said the mother, not lifting her eyes from the lamplight. "She has never known a care or sorrow and looks upon life as a good joke, and nothing more. She is not like our neighbor's daughter, Jane Smith."

"Not at all like her," answered Morris, quietly, with his hand shading his eyes from the lamplight. "Jane always looks on the serious side of things, and I never saw her more than smile, and she always seems sorry for having done that."

"Jane is a good girl," said Mrs. Gurnee, quickly, "and a very conscientious girl. Modest, earnest, proper in behavior and viewing life in its true sense. She would not be pelting young men with roses. Yet she cares more for you, Morris, than Fleece Mills does, or even can; and Jane is a pretty girl, Morris—pretty enough to please any man's taste."

"Yes, I think she is pretty," answered Morris, as if he had just thought of it for the first time, which was true.

"And she would make a good wife, Morris."

But Morris had no answer to this. He arose, presently, and went to his room and lay there thinking, thinking. His mother was growing old, he was receiving a good salary, his home was paid for and he was twenty-six years old. It would be better all around if he should bring home a wife.

Jane Smith was a pretty and a good girl, and he believed she cared for him, or would grow to if he asked her. She was too prudent, too sedate, too regardful of the "proprieties," to allow herself to care for a man until asked. His mother liked her; why not end the matter by asking Jane to be his wife? But Fleece—oh, Fleece! laughing Fleece, Fleece, Fleece! and saying the name over softly again and again, he fell asleep and dreamed he stood before the altar, plighting his vows to Jane Smith; and just as he was about to utter "I will," which would bind him forever to her, Fleece Mills pelted him in the mouth with a blood-red rose, and then she stood and laughed at his silent confusion.

He overtook Jane Smith the next morning as he was going to his work, and walked a few squares with her. She was pretty, with such soft, black hair and dusky eyes, and she actually smiled at him once. They passed Mr. Mills', and Fleece was watering a hanging basket in the open window, and looked and said "Good morning," and then laughed.

"What a giggling girl Fleece Mills is!" said Jane, gravely. "She seems to think life was made for laughter. I wonder if she ever had a serious thought?"

But their ways separated here, and Morris was spared a reply. Ah, well, Jane was right—his mother was right—Fleece was a light, vain girl, a human butterfly, and he was a fool to think of her. He would think of her no more.

He saw a good deal of Jane Smith for a few weeks after that, and quite made up his mind to please his mother and ask Jane to be his wife when an accident occurred. He fell from a scaffolding and was carried home a helpless mass of broken bones and bruises. His mother fainted, the sight of her son borne by strong men.

Neighbors crowded in to render assistance. Jane Smith came to the door.

"Is that you, Jane?" she called. "Oh, come in. They tell me he is dead, only hurt and bruised. I am glad you have come to be with me. But Jane shook her head.

"You have plenty to help you, see," she said, and if I stay people will talk. They will say I was bold to thrust myself in the way when was not needed. I must not forget my dignity or sex you know. I will come every few hours and inquire how he is, and if you need help, send for me. I shall pray for his recovery dear Mrs. Gurnee."

She was turning to go, when someone rushed past her into the room.

It was Fleece Mills, all wrapped in a white shawl, her face white, blue eyes dilated. She looked like a vision. Unmindful of the presence of any third party she sprang to the side of Mrs. Gurnee, and put her arm about her, the tears flowing down her cheeks.

"Oh, she cried, "I am so sorry for you—so sorry. Tell me, is he dead? Will he die? I have heard such cruel tales, a dozen different ones, on my way here."

"No; he lives; he is terribly injured, but he will get well; they tell me so."

Then Fleece arose, and the gladness came back to her face as she said:

"I am so glad—so glad! Thank Heaven!"

And then she laughed.

Morris surrounded by physicians and attendants in the next room heard the laugh.

"Who is that?" he cried, in a clear strong voice. "Who laughed?"

"It was I—Fleece Mills," she said and went toward the door.

"Come here," he responded, "I want you. I must go through a painful operation; my shoulder is dislocated and my limbs broken in two places. I am internally injured also, and may not live through it all. Come and touch my hand before you go."

"But I am not going, Morris," she said, bending over him. "I came to stay, to comfort your mother, and be with you while you need my care. If you will let me, I will stay here while they are setting your limbs. I will hold your hands, and if you look right in my eyes, I think you can endure it."

"But my dear young lady," interposed the head physician, "it will try your strong nerves. We have forbidden his mother the room and if you faint or scream, it will unnerve the patient and prove fatal."

"I shall not faint or scream," she said quietly.

"But," persisted the physician, "you do not know the ordeal. We do not administer chloroform because of his internal troubles, and he must show such agony that you cannot endure it."

"He needs me, and I shall remain," she said. "You need not fear for me."

"God bless you," whispered Morris and clung to her hands.

It was a terrible hour, but Fleece

Mills did not wince or waver. She stood at her post, white as death, but smiling bravely, and touching the sufferer's brow with tender, cool hands, and speaking to him in low, soothing tones when the pain grew most intense. And he never once took his eyes from her face.

"You have been very courageous, and have helped us to perform a most dangerous operation," said the physician, when the last bandage was adjusted, the last bruise bathed. "The young man will live. The only fear was that he had not vitality enough to carry him through the operation. Now that he has endured it so well, he will recover."

And again Fleece laughed—a ripple that filled all the room and brought a smile to the white face of the sufferer.

"God bless that laugh!" he said, feebly. "Now go and rest, Fleece."

And as soon as Fleece was outside the door she fainted dead away. Only a swoon, however, which she recovered from readily, and was soon at her post again.

"How heartless of that girl to laugh in the house of suffering," said Jane Smith. "How bold of her to thrust herself upon them in such a way. I wonder what Mrs. Gurnee thinks of her. I know Morris must be disgusted."

But Morris' conversation with his fair nurse a few days later did not savor of disgust.

"I have loved you so hopelessly for a whole year," he said.

"Why didn't you tell me so," she asked.

"Because I feared you would laugh at me. You are always laughing at me."

Here Fleece rippled into a laugh again.

"There, I knew you would," said Morris; "it is just as I expected."

"But I was not laughing at your love for me," she said, "only at the idea that you would think I would laugh," and she laughed more than ever and Morris joined her.

"You men are so blind," she added.

"I have loved you two years, and tried to make you see it. At last I threw a blood-red rose in bloom at you, and thought surely you knew that meant love. But only the next day, I saw you passing by with pretty, black-eyed Jane Smith, and I nearly died of jealousy."

"But I did not dream you would love a poor carpenter," he said.

"My father was a poor carpenter," she answered proudly, and then added softly and reverently, "and so was the dear Savior, my Master. Why should I be ashamed to have my—my husband a carpenter?"

And she buried her blushing face in his bosom.

Morris recovered in an incredibly short space of time from his hurts and broken bones, and in a very brief time thereafter the bells rang forth his wedding chimes.

"Of all the girls out of the whole world," said Mrs. Gurnee, "you have chosen the best one for a wife and for a daughter to me."

It is said that Fleece laughed just after the clergyman pronounced them man and wife, but I don't know how true it is. But certain it is that the laugh Morris used to so object to has become the sweetest sound on earth to him.—Ella Wheeler Wilcox, in New York Weekly.

Astronomy is the science of the harmony of infinite expanse.—Lord John Russell.

RECIPES.

Codfish balls.

Always in season are cod fish balls. The shredded and boned fish may first be soaked in cold water for an hour, and then cooked after the following recipe: one cup codfish; one cup diced raw potatoes; one egg (unbeaten); one tablespoon butter. Salt and pepper to taste. Boil potato and fish together in boiling water until potato is soft; drain; mash with a spoon; add egg and seasoning, and drop by tablespoonfuls into hot fat and fry to a delicate brown. Serve with a white sauce. If one has mashed potatoes it can be used instead of the raw potatoes, boiling the codfish a few minutes and draining before adding the potato.

Baked Pears.

Peel as many pears as you wish to serve, leaving on the stem. Make a syrup of two cupfuls of sugar, then place the pears in the syrup to cook until fairly tender, but not soft enough to break; remove the pears to a dish to cool, and boil down the syrup with a lemon sliced thin in it to flavor it. Cook five minutes. Arrange the pears in a dish, with the sliced lemon around the edge, and pour the syrup over. If allowed to cool a little, it can be served in a glass.

Baked Onions.

Boil the onions until tender in plenty of salted water. Pour off and arrange them in a buttered baking dish. Season with paprika or white pepper and put a good dot of butter in the center of each onion. Pour over a cream sauce, dust with cracker crumbs and bake until browned.

Creamed Eggplant.

Pare the egg fruit and cut in inch dice. Boil until tender, then drain, season with salt and pepper and cover with rich milk. Let this simmer until somewhat thickened, and dish with the addition of a generous lump of sweet butter.

Mock Oysters.

Green corn may be served in a variety of forms, and is delicious to most tastes in all. It is also exceedingly nutritious and fattening, so that its food value is as great as its popularity. Mock oysters or fritters is one attractive variation, and these may be made of other materials also. For corn fritters or "oysters," it is best to split the kernels on the cob with a sharp knife lengthwise, and press them out with the back of the knife. To each cupful of this milky corn add a cupful of sweet milk, a beaten egg and flour to make a batter. Fry in deep fat or saute in a frying pan. Sifted squash combined in equal quantities with the corn makes a good variation. Carrots, cooked very thoroughly, then mashed and sifted, make still another supply. Add a raw egg to each cupful, mold with the hand into small cakes, dip in beaten egg, then in bread crumbs and fry in deep fat.

Orange Custard.

Peel from four to six oranges and halve them, taking out the white part in the center; cut into very thin slices, taking care that no seeds are retained. Place in a glass dish in layers, covering each layer with pulverized sugar. Over the whole pour a cold boiled custard and set in the ice-box until ready for use. This makes one of the most delicious dessert dishes and is very easily prepared.

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You know a Keen Kutter Plane, or any Keen Kutter tool, is true before you buy it, because it is stamped with the trademark which guarantees it.

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LINERS

Liner Advertising

Advertisements in Liner Column 1½ cents per word. Eight words to a line. No advertisement taken for less than 25 cents.

EGGS FOR HATCHING.

AT REDUCED PRICES BALANCE OF season from my prize winning Barred Rocks; won all special and 13 regular prizes on Barred Rocks at late Los Angeles show. Eggs from best pens, \$2.50 per 15; \$10 per 100. Can furnish any quantity. Also offer extra bargains in breeding stock. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

PRIZE. BLACK LANGSHANS, SHORT legs, heavy bodies, unexcelled egg-producers. Choice 1907 cockerels, \$3.00; eggs, \$2.00 per 15; \$10.00 per 100; delivery of eggs Sept. 10th. Indian Runner duck's eggs and stock for sale. CLYDE J. MOSS, Corona, Cal.

PARTRIDGE WYANDOTTES—C. ANDREWS 332 West Third street, yards at Hollywood, Cal., eleven prizes and silver cup at Poultry Breeders' show, 1907.

POULTRY FOODS.

ARMOURS BEEF SCRAPS, MEAT MEAL, and Blood Meal for poultry feeding are highest in digestible protein. If your dealer does not handle them write us direct. Circular containing formulae free. **THE ARMOUR FERTILIZER WORKS, 736 H. W. Hellman Building, Los Angeles.**

LAND.

JUBILEE POULTRY FARM—80 ACRES, well improved; 1000 pullets and hens; 2 horses, cow, farming implements, vehicles, 5 large Jubilee incubators and brooders; good roads, good markets; fine for vegetables, berries, etc. Telephone in house; hot and cold water to bath; water piped to all parts of the place; 6000-gallon tank; 4-H. P. Fairbanks-Morse engine, which runs pumping plant, vegetable cutter, shell and grain crusher, washing machine, wringer, churn, grindstone. Plenty good water. \$7500 takes everything. Easy terms, or will trade for 10, 15, 20 acres improved land in Riverside Co.; close to Riverside preferred. **WM. MANTZ, Santa Maria, Cal.**

FOR SALE—AN IDEAL SITE FOR RAISING chickens. Ideal for a little home, three acres, one and one-fourth mile from two banks. Post office, High School, churches, etc. Electric light wire, curbed and oiled streets. Grand old shade trees, splendid view and drainage. For particulars address, **OWNER, P. O. Box 254, Corona, Cal.**

FOR SALE—10 ACRES WELL IMPROVED; 5 acres in peach and olive trees all in bearing; 5-room house; tank house; wind mill; large barn; chicken houses and improvements. For particulars and price, address **MRS. ROB. BAUMAN, R. F. D. No. 1, Corning, Cal.**

IRRIGATED ALFALFA, SUGAR BEET and grain land, \$18 to \$25 an acre. All the water you wish guaranteed by Canadian Government for 50c an acre a year. Good markets. Biggest crops. **W. R. GILSON, 411 S. Main St., Los Angeles.**

HELP WANTED.

WANTED—A NURSERYMAN WHO HAS had experience in fruit tree nurseries and understands budding and grafting. A good opening for a young, energetic man who is anxious to advance on his merits. Also a young man who is familiar with ornamental plants and greenhouse works. Address, **BOX 2697, FRESNO, CAL.**

WANTED—AN EXPERIENCED MAN (with wife) competent to manage an orchard and vineyard of 240 acres. Must furnish reference from last employer. Pleasant home supplied. For particulars, address **M. W. SHIDY, Acampo, Cal.**

MACHINERY.

FOR SALE—GAS ENGINE, 20-H. P. FAIR-banks, with generator; good condition. Price, \$500; cost \$1100; used one year. Address, **BOX 223, Lindsay, Cal.**

BOOKS.

FREE—"THE POULTRY MANUAL," BY those high authorities, F. L. Sewell and Ida E. Tilson, profusely illustrated. Send us the names of twelve persons keeping any poultry, and we will send it to you absolutely free and postage prepaid. **WEST COAST STOCK FOOD CO., 818 San Fernando St., Los Angeles, Cal.**

CATTLE.

FOR SALE—FRESH REGISTERED JER-sey cows. Parties wishing to see them can take Santa Ana electric car, get off at Hansen, one-half mile east. **W. J. COLE, R. F. D. 1, Anaheim, Cal.**

DUROC-JERSEY PIGS.

FOR SALE CHEAP—SIX TURKEY HENS at \$1.50 each. **GEO. LOUIS T. RIVARD, Fillmore, Cal.**

FOR SALE—IN A1 CONDITION AT A bargain. 35-H. P. Westcoast gasoline engine. 943 N. MAIN ST., Los Angeles.

FOR SALE—CHEAP FOR CASH—3-H. P. pumping engine in first-class shape. 117 BRUNO ST., Los Angeles.

FOR SALE—25-H. P. FAIRBANKS-MORSE distillate engine as good as new at a snap. **N. W. COR. MAIN AND BRUNO STS., Los Angeles.**

Fruit growers throughout the San Joaquin valley are pleased with the new refrigerator express service between San Francisco and Los Angeles.

The citrus growers of Tulare county are aroused on the White Fly question and are urging every step for its control.

The Produce Markets

Los Angeles Markets

LOS ANGELES, Sept. 18, 1907.

Butter.

Butter has declined perceptibly, but prediction is made that 2½-cent advance be made during this week.

Creamery extra per roll...62½
Creamery first...60
Dairy...50
Cooking...45@47
Eastern...55@57½

Cheese.

Cal. Young America, per lb...19
Hand...20
California Anchor...18
Northern fresh...17@17½
Eastern...17½@18
Imported Swiss...32
Tulare flats...17½
Domestic Swiss...21@22

Eggs and Poultry.

The egg market is stronger and selling closer to full quotations than last week. Receipts of local ranch are light but Easterners are heavy. Dealers are apparently boosting the market.

Eggs local candled...35
Eggs case count...32
Fresh Eastern...28
Eastern storage...25

The following are average prices which dealers pay to producers for live weight.

Hens per lb...14
Young roosters per lb...14
Fryers...15
Broilers per lb...17
Old Roosters...8
Turkeys...17@18
Geese...12
Ducks...12
Squabs per doz...1.75@2.00

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 lbs...7½@7¾
Prime steers...4½@4¾
Heifers...3¾@4
Calves per lb...4
Sheep, ewes, per head...4.75@5.25
Lambs per head...4.50
Wethers...5.50

Potatoes.

There is a slight easing of the potato market with quotations seldom reached and a prediction of further decline.

Highlands...1.85@2.00
Early Rose...2.00
White...1.90@2.00
Local Burbanks...1.85@2.00
Salinas...2.25
Sweet potatoes per lb...2¼@2½

Onions.

Silverskins per ctf...2.50
Australians...2.35
Yellow Danvers...2.50
Garlic...7@8

Vegetables.

Beets per doz...35@40
Bell peppers green lb...3
Beans wax...5
Beans Limas per lb...4@5
Beans green...2@3
Cabbage sack...85
Celery per doz...65
Chili peppers green lb...3½
Cucumbers per box...10@20
Corn per box...30
Cauliflower...1.50
Carrots per doz...30@40
Eggplant per ub...3@4
Green onions doz bunches...15@30
Lettuce per crate...40@75
Mushrooms per lb...1.00
Pie Pumpkins...1½
Peas sugar per lb...5@6
Okra per lb...5@6
Rhubarb per box...1.35@1.50
Radishes per doz...15@20
Spinach per doz...10@15
Summer squash crate...25@35
Turnips doz bunches...40
Tomatoes per box...25@35
Water Cress per hundred...35

Citrus Fruits.

There are practically no oranges on market. Such as are in are of most indifferent quality at big prices.

Valencias...2.75@3.50
Grapefruit seedless...2.50@3.00
Grapefruit seedlings...1.50@1.75
Lemons fancy...3.00@3.50
Lemons choice...1.50@2.00

Fresh Fruits.

Supply of fruit is good and prices fair. The tone of the market rather strong.

Apples Red Astrachans box...1.00@1.25
Bellefleurs...1.75
Gravenstein...1.50
Alexandria...1.00@1.50
Cooking...50@1.00

Blackberries...10
Cantaloupes crates...1.25@1.75
Casaba per crate...1.00@1.25
Figs black per lb...4@5
Figs white...5@7
Grapes Isabelas per box...1.25
Black Hamburgs...1.50
Rose Peru...40@50
Muscats...30@35
Tokay...1.50
Huckleberries lb...11
Logans...12@15
Nectarines...2.00@2.25
Pears...2.25
Peaches per box...60@75
Fresh prunes...65@75
Hungarian prunes...1.10
Pomegranates box...1.00
Quinces...90@1.00
Raspberries...12
Strawberries...3@5
Watermelons per lb...1@1¼

Dried Fruits.

The dried fruit market is showing activity though the prices are far below the earlier season. This slump is charged to the ruling of the department which upset the earlier markets.

Evap. apples fy per lb...8½@9
Apricots...17@19
Peaches...9@12
Pears...11½@12½
Nectarines...11@12
Prunes...3½@5½
Plums...11½@12½

Beans, Dried

There is no change to speak of in the quotations of last week.

Limas per ctf...4.75@5.00
Pink No. 1...3.25
Lady Washington...3.25
Small White...3.25@3.40
Black eyes...4.50@4.75
Garvanzas...5.25@5.75
Lentils...12@12½

Honey

The prices we give are those at which the jobber sells to the grocer in small lots. The producer should take from this one cent a pound commission and freight to Los Angeles, and there will remain the net returns to him.

Extracted white...6@7½
Light Amber...5@6
Comb water white 1-lb. fms...12@16
Light Amber...11@13

Nuts.

Prices at present ruling on walnuts are as follows:

Almonds per lb...17@18
Peanuts Virginia...8½@9
Peanuts California...6@7½
Walnuts No. 1 S S...13%

Hay.

Barley No. 1...14.00@15.00
Barley No. 2...11.00@12.00
Alfalfa northern per ton...13.00
Alfalfa new local...14.00
Plain oat No. 1 new...12.00@15.00
Wheat No. 1...15

Grain.

Purchasing prices f. o. b., Los Angeles are:

Wheat new per cwt...1.70
Barley...1.20@1.22½
Corn Eastern sacked...1.55

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn...1.65
Shorts...1.45
Bran...1.30
Egyptian corn...1.65
Oil cake meal...2.50
Rolled Barley...1.40
Rolled barley per ton...25.00
Feed meal...1.70
Kaffir Corn...1.65

It seems just a trifle inconsistent all around that the French vine growers were provoked into civil war because they could not sell their grapes, and that California growers can afford to dry their wine grapes and ship them to France than to sell them to home wine makers. There must be something radically wrong with the wine makers in one country or the other.—Sacramento Union.

H. A. Wheeler, of the firm of Perham & Wheeler, the well-known Black Minorca breeders at Lordsburg, has taken over the interest of Mr. Perham and will conduct the business in his own name from now on. Mr. Wheeler has been the member of the firm that has entire charge of the mating, feeding and breeding of the birds, as well as attending to all correspondence, filling orders, etc., and the change in the firm is a change in name only. Mr. Wheeler will devote his entire time to his big flock of breeders from now on and is in position to supply any demand for stock or eggs to the Black Minorcas fanciers of the West.

San Francisco Markets

SAN FRANCISCO, Sept. 17, 1907.

Butter.

There has been an increase in quotations on butter though slow sales at the increased price. It is predicted a firmer condition will prevail.

California extras per lb...13
California firsts...13
California seconds...24
California thirds...24
Eastern extras...24
Storage Cal ex...28½

Cheese.

California Young American fy...14
California flats fy...15½
Eastern fy...15
Oregon fancy...15½

Eggs and Poultry.

Fresh eggs of the first quality are at a premium and storage stock meets with a continual call with quotations fluctuating daily.

Fresh ranch eggs...39½
Eggs firsts per doz...3
Eggs seconds per doz...2
Eggs thirds...2
Eastern selected...24½
Eastern firsts...2

Two more cars of Eastern poultry arrived yesterday to swell the receipt of the previous carry-over. Local stock, because of the present poor trade conditions, is coming in slowly. Dealers report a generally weak market. Buyers refuse to take stock even at ruling moderate figures and dealers are making liberal concessions daily to prevent too much accumulation.

Hens per doz...4.50@5.50
Hens large...6.00@6.50
Young roosters...6.50@7.50
Old roosters...4.50@5.00
Fryers per doz...5.00@6.00
Broilers per doz...3.50@4.50
Ducks young...4.00@6.00
Geese per pair...1.75@2.00
Turkeys per lb...18@2
Pigeons...1.50@2.00

Live Stock.

Steers No. 1...8@8½
Do second quality...7@7½
No. 1 cows and heifers...6½@7
Hogs 80 to 200 lbs...7
Hogs 200 to 300 lbs...7½
Calves per lb...4½@5
Lambs, yearlings...6@6½
Wethers, No. 1...5½
Ewes, No. 1...5

Potatoes

Sweet potatoes were in general, of medium quality but moved along freely. Quotations on Salinas Whites declined somewhat, but there was no special inquiry made for them.

River Whites...1.10@1.15
Salinas...1.50@1.8
Early Rose...1.00@1.2
Sweets...2@2½

Vegetables.

The vegetable market was quite active yesterday. Receipts were moderate and limited enough to hold the market firm. Quotations fluctuated but little and all supplies were well in control all the morning. Quite a quantity of Saturday's carry-over was disposed of at the ruling figures of the day. The tomato market brightened up materially and the stock is now ripe enough to figure as choice grade. Cannerymen dealt considerably in the yesterday. Some Red peppers arrived but the market for them and the great variety is quiet.

Asparagus...50
Cucumbers per box...50@1
Corn per sack...1.50@2
Chili peppers per box...35@40
Bell peppers per box...50@75
Egg plant per box...25@1
Green peas per lb...20
Squash per box...35@40
Tomatoes California...65@1
String beans...20
Wax beans...24@30
Garlic...3@4

Onions.

Onions Br Australia per ctf...1.25
Onions new yellow...1.90@2.25

Citrus Fruits.

Valencias...3.00@4.25
Grapefruit seedless...1.75@3.50

Fresh Fruits.

Fresh fruits met with a fairly brisk demand yesterday, but several varieties were not of extra quality and lots were unfit for sale. Pears, which came in too freely on Saturday, had spoiled and dealers threw all their carry-over on the market.

Apples Gravenstein...1.50@1.7
Apples small stock...40@7
Crab apples...65@7
Blackberries per chest...3.00@4.5
Figs one layer...25@60
Figs two layers...75@1.0
Grapes per crate...75@1.5

emons per crate..	60@1.00
lums per box..	50@1.00
eaches per box..	1.00@1.25
artletts..	75@2.00
aspberries per chest..	7.00@10.00
trawberries per chest..	6.00@10.00
atermelons per doz..	1.00@2.25

Dried Fruits.	
pples (evap.)..	7½@8½
pricots per lb new..	17@19
igs white ..	3½@4½
runes 4 sizes..	4@5½
eaches..	10@13
ears..	5½@11

Beans, Dried.	
imas..	5.00@5.25
ink..	2.65@2.75
mall white..	2.85@3.00
arge white..	2.85@3.00
ady Washington..	2.30@2.85
lack eyes..	4.00@4.25
ed Kidneys..	3.50@3.60
ayo..	3.20@3.00

Hops.	
ops new future delivery per lb..	7@9
ops old fancy..	5@7½

Nuts.	
monds new..	16½@17½
eanuts California..	6½@7½
Valnuts..	12@13

Honey	
lear white comb..	16@17
amber ..	12@15
Extracted..	7½
Bees wax No 1 per lb..	25@28

Hay.	
alfalfa local ..	11.00@13.00
ame oat..	15.00@16.00
Wild oat..	10.00@14.00
Wheat No. 1 new..	12.00@17.00

Grain.	
Wheat No. 1..	1.57½@1.60
Barley No. 1..	1.32½@1.35
orn small yellow..	1.65@1.67½
orn large yellow..	1.50@1.55
ats white..	1.45@1.55
ats red..	1.65@1.90

Feed Stuff.	
bran per ton..	20.00@22.50
traw per bale..	50@90
eed cornmeal per ton ..	33.50@35.50
acked corn per ton ..	34.00@36.00
il cake meal per ton..	38.50@40.00
oconut cake, per ton ..	25.00@26.00
idlings..	27.50@30.00

Citrus Market

LOS ANGELES, Sept. 17.—Valencias are so nearly cleaned up that there can be said to be but little interest in range markets. Another week or two will see practically all shipped, though an occasional car may be held over into October. The principal interest now is as to boxes and appliances for next year's output. Packing-houses are being overhauled, graders, brushers, scales, bins and all other features put in condition for economical handling of the coming crop.

While some still maintain the crop will be lighter than this year it is probable now that an increased output will be given if fair weather conditions prevail from this time.

Valencias are usually commanding \$3.50 and \$3.75, f.o.b. California, but some auction sales are much below that.

Lemons are scarce and commanding good prices. Foreigns are not coming freely as earlier in the season.

Citrus Shipments.
Shipments of citrus fruits this year 7,142 cars, of which 3275 were lemons. To same date last year, 25,440, of which 516 were lemons.

NEW YORK, Sept. 16.—The orange market is much stronger and here is a good demand for grapefruit, 18s to 80s; dull on 96s and smaller. Weather hot.

VALENCIAS.	
Pyramid, o. r. Strachan Ft Co.....	\$2.65
Limited fy Strachan Ft Co.....	2.30
Papoose, ch Strachan Ft Co.....	1.75
Signet extra fancy O. G. C. A. ..	4.80
Colonel ex ch O. G. C. A.	3.85
Trade Mark st O. G. C. A.	1.95
Blue C fy Covina Ft Ex.....	4.80
Red C, ch Covina Ft Ex	3.75
St. Bernard st, Covina Ft Ex....	2.60
Primrose st D. M. Ft Ex.....	3.85
Partridge ex ch C C U.....	3.35

See us for Sanitary Milk Bottles. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Albion fy, Thomas Strain	4.60
Cambria st Thomas Strain	3.50
Cerrito O G C A	2.80

BOSTON, Sept. 16.—The market is firm and the weather is favorable. Three cars were sold and there are eleven on the track.

VALENCIAS.	
Voluntéer ex ch SA Ft Ex Pomona	\$4.00
Hunter, st A C G Ft Ex Char-Ok	2.25

CLEVELAND, Sept. 16.—The market is firm on good stock. Weather firm. Two cars were sold and one is on the track.

VALENCIAS.	
Trail, ch S 1 Ft Ex Lamanda ..	\$3.90
Canon, st, S T Ft Ex Lamanda ..	3.05
LEMONS.	
Canon, st S T Ft Ex Lamanda	2.65
Coronado Beauty ex ch Q. C. Ft Ex	3.00
Grove, st Q C Ft Ex	2.00

PITTSBURG, Sept. 16.—The market is firm and weather is favorable.

VALENCIAS.	
Jasmine st D M Ft Ex Duarte ..	\$4.25
Golden Rule st Riv Ft Ex Riverside	3.90
Golden, ex ch Riv Ft Ex Riverside	2.80
JAFFAS.	
Golden Rule st Riv Ft Ex Riv.	2.70

PHILADELPHIA, Sept. 16.—The market is steady and the weather favorable. One car sold.

VALENCIAS.	
Honest Pack ex ch Tustin P Co	\$3.00
Lucky, st Tustin P Co	\$3.00

NEW YORK, Sept. 17.—The market is practically unchanged, slightly easier on ordinary grades. Weather hot and muggy. Five cars sold.

VALENCIAS—	
Avg.	
Colonel xch O Gr Cash A..	\$4.15
Trade Mark st O Gr Cash A.....	2.70
Pointer xch ACG Ft Ex.....	3.55
Victory xc Cal C U.....	3.30
Old Mission fy Chapmans' Fulln	6.60
Golden Eagle st Chapmans' Fulln	4.25
GRAPEFRUIT—	
Old Mission..	3.85
Colonel.....	—

ST. LOUIS, Sept. 17.—The weather is warm. Two cars of Valencias were sold and there are four on the track. Sept. 16, (delayed wire).

VALENCIAS—	
El Modena st Sunset Ft Ex El Mo	3.75
Searchlight st Sunset Ft Ex El Mo	3.80
Planet ch Sunset Ft Ex Orange..	3.60
Searchlight st Sunset Ft Ex Oran	3.25
LEMONS—	
El Modena st Sunset Ft Ex El Mo	2.05

BOSTON, Sept. 17.—The market is steady and the weather is hot and muggy. One car sold and eleven on track.

VALENCIAS—	
Red "C," xch Covina Ft Ex Cov	4.50

REPORT OF STATE BOARD OF TRADE.

The seventeenth annual report of the California State Board of Trade is at hand.

It covers both the years 1905 and 1906, and while mainly devoted to the resources, industries and development of the country, it gives some space to other features that make the Golden State pre-eminent as a land of attractiveness to every one, whether bent on business or pleasure.

Making and breaking dams in the head ditch and making and closing breaks in its bank are not in keeping with the best irrigation practice. In permanently laidout fields the ditches should be provided with boxes or with back flows for the control of the water. When water is first turned onto the land the flow from the first box should be so regulated by raising or lowering the gate that the flow will fill the desired furrows, and so on down the lateral until the water is all in use.

CALIFORNIA STATE FAIR.

Continued from First Page

In machinery and farm appliance class the greatest interest was attracted by the milking machines, of which there were two, a foot-power and a power machine. From four to five o'clock every afternoon big crowds surrounded these machines and witnessed the demonstration of their usefulness.

The greatest lack noticed at the fair this year was that of farmers to attend it. The attendance at the pavilion, especially in the evenings, was all that could be asked, and has given good financial returns to the management. The attendance at the races in the afternoon, especially on Governor's day, which was made more of a social function, was very good, and the grand stand was at times fairly well filled. But the California farmer around the stock pens or examining newer makes and latest patterns of machinery were conspicuous by their absence. To one who has been used to seeing the Eastern State and county fair grounds with the big grove at one end filled with thousands of teams tied to the rear end of the wagon while farmers who drove in from the surrounding country spent the entire day in picnicing and taking in the sights and side shows of the fair, the Sacramento attendance was most disappointing. There are no "woods" or groves whatever upon the grounds where a farmer can drive his horse under the shade. Even the trees which were planted as a border to some of the drives never seemed to get encouragement enough to live and start their first leaves. The management needs to get some one who understands tree planting to get some trees to growing to give some shade.

Possibly there is too little of the farming community about Sacramento to who would drive in and get the advantage of the fair, but if such is the case, there should be a change in its location, for sure it is there was not during the entire week a single vehicle driven into the grounds which looked like a farmer's outfit coming in to enjoy the fair. Quite often an automobile, or occasionally a coupe, or sweet rig of some kind from the city drove in to enjoy the afternoon racing.

This cannot be said to be the fault of the management of the fair for sure it is that an instructive exhibit was gotten together this year which was worthy of more general attendance on the agricultural grounds. This, doubtless, because of the odor of the racetrack days. If this can be wiped out of the minds of the producing class, and the knowledge gained that a genuine agricultural fair is in progress at Sacramento, California may yet rise to the dignity of having an exhibition that will be instructive as well as profitable to the management.—C. B. Messenger.

The September number of Forestry and Irrigation, the monthly magazine of the American Forestry Association, contains a number of articles of unusual interest. Among its leading features are: The Norway Poplar, or Sudden Sawlog; The Debris from Hydraulic Mining in California; A Domesday Book for Oregon Waters; A National Need; Effect of a Late Spring Frost in the Southwest; Forest Planting in Connecticut, 1907. It is handsomely illustrated and is well worth reading.

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READING COURSES FOR HOME STUDY.

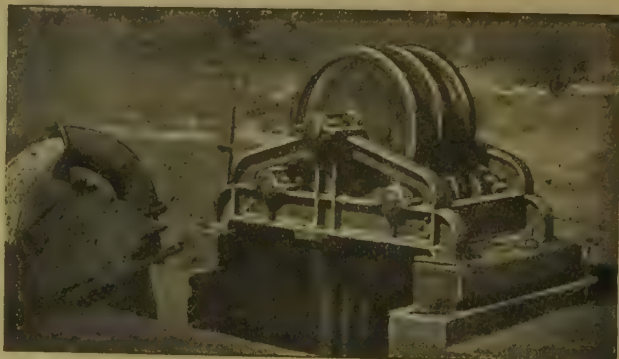
Excellent reading courses for home study are now provided by the Extension Department of the University College of Agriculture. Two such courses are offered at the present time: One in Economic Entomology and the other in Irrigation Practice and Institutions. These courses may be looked upon as an outward growth of the Farmers' Institutes and are designed to amplify and broaden the work of such meetings. Enrollment is hedged about by no difficulties. Anyone desiring to read up on the subjects offered, in a systematic way, may enroll and literature will be furnished free of cost save transportation from and to Berkeley. The books and publications are chosen as representative of the best thought and study and experience on the questions at issue. Students using them have the privilege of consulting on difficult points members of the staff of the College of Agriculture at Berkeley who are specialists in the various lines. University Extension teaching will thus be brought directly to the students' homes. During the year just ended 165 students have enrolled in these courses. Thirty-seven counties of this State and four States beside California are represented. An analysis of the enrollment shows that 95 per cent of the students are directly interested in some form of Agricultural work—in other words, those to whom the courses are most profitable are registered.

LITTLE USE FOR WHIPS.

A dealer in whips says there is a great change as to the number of whips that are now sold to drivers. "Why, in proportion to the number of people," said he, "I think not half so many are used as were used, say, twenty-five years ago. Many owners of horses never carry a whip. I know men in this country who always have horses and who never strike them. Many people hold that if a horse is properly reared from colthood up it will never need a whip. What are called the bad traits of a horse are usually the fault of the people who have handled them. Some bad traits are hereditary, but they trace back to bad management of the ancestry. The more good sense a man has the less punishment his team will need. It is practically all a matter of good common sense."

Placer county is turning out a big hay crop this year, of an average quality, but grain yield is light owing to the unfavorable climatic conditions last winter.

Addison Double Plunger Pump Head

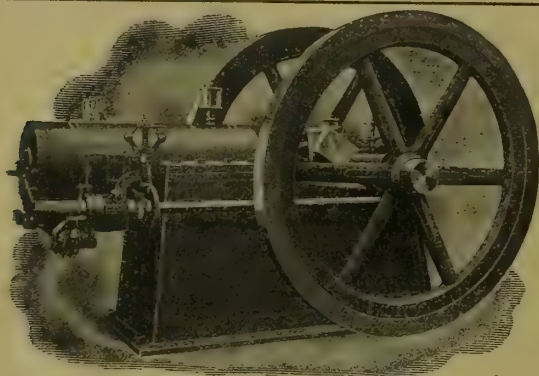


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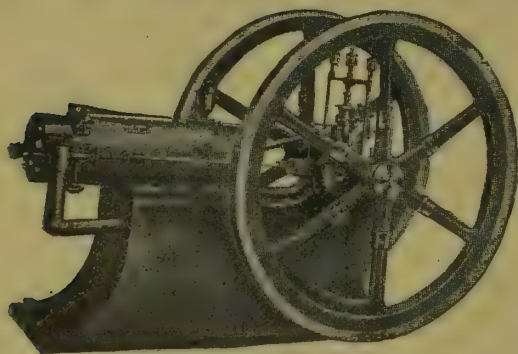
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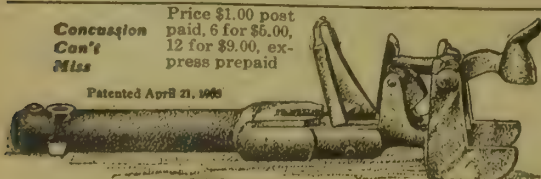
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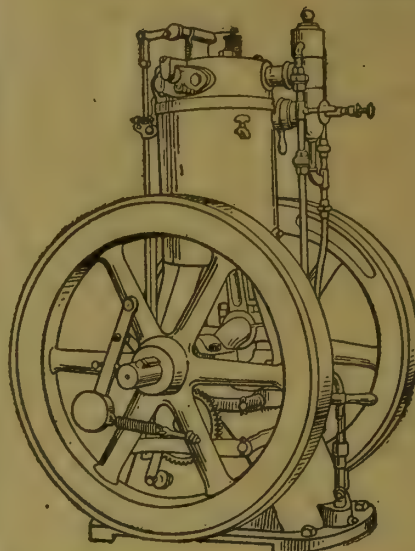
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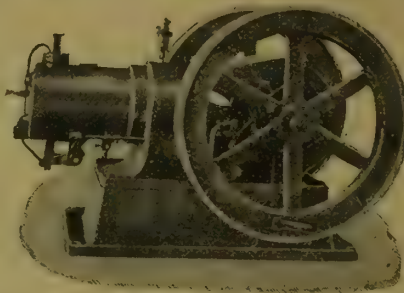
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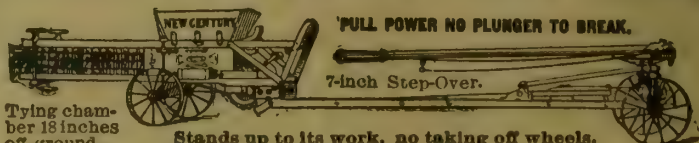
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California Cultivator

Los Angeles September 26, 1907 San Francisco

Orchard Scenes in Southern Oregon



No State Raises Better Fruit.

Courtesy Pacific Northwest

SINCE Southern Oregon won its laurels at the Irrigation Congress, the question is asked: "Can Oregon really raise fruit?"

We Californians may question it if we will, but before another contest of importance occurs, let us awake to the fact that our neighbors to the north are some on fruits and if we would win we must make our best showing of finest fruit.

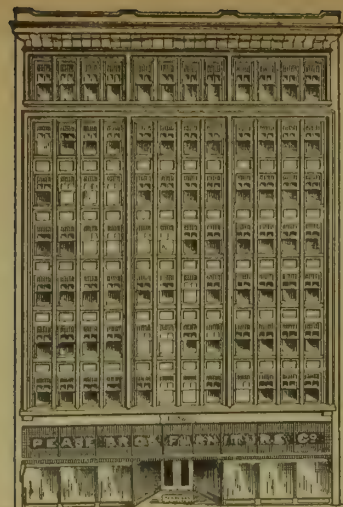
Here is the way they talk of themselves up there:

"Here the expression, 'My own vine and fig tree,' is not figurative. The farmer may and often does have both. Peaches, apricots, almonds, grapes of all kinds, apples, 'just as good' as the famous Hood River or Willamette Valley pomes, pears that are sold for

\$6 a box in New York and still higher in London, and other fruits in bewildering variety are grown here.

"But while fruit will ultimately make this section of Oregon as famous as it has made certain parts of California no more favored by nature, there are in these Southern Oregon valleys hundreds of thousands of acres of good general farming land which can be had at low prices.

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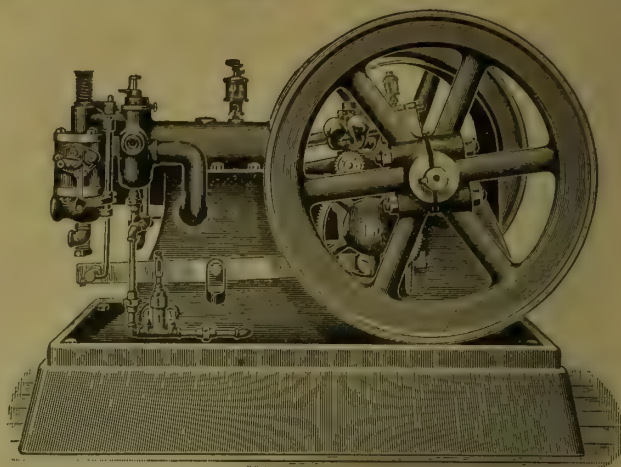
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California Cultivator

Vol. XXIX—No 12

Los Angeles, California, Thursday, September 26, 1907

Subscription \$1 a Year

The Jersey as an Economic Dairy Cow

A Friend of the Jersey Tells of Some of Her Good Qualities and Gives a Bit of Her History.

FROM a paper prepared by Mr. Claud D. Tribble of the Enterprise Jersey Farm, Elk Grove, for the session of the California Live Stock Breeders' Association, we make the following quotation:

One of the striking characteristics of our modern economic progress has been specialization—devising of ways and means best suited to obtain specific results. The breeding of cattle was one of the first industries to feel the effect of this tendency, and the various specialized breeds of cattle are the results, developed from races of cattle that originally were but differently fitted for any particular purpose, and which utilized for different purposes, for milk, for butter, for plowing or other different purposes as the occasion required.

The demand for superior beef cattle led to the selection and development of the Short-horn breed, and the Holstein and Ayrshire cattle are the results of efforts directed to attain a large milk flow. But these breeds left the important qualities of the cattle race largely unfilled, and progressive breeders sought a cow that would give a product of great richness, combined with a persistent milk flow, gentleness of disposition and beauty of conformation. In search of such an animal the attention of the breeders of England and America was early turned to the cattle of the Channel Islands, and eventually concentrated on one of them.

in.

This favorite breed of cattle originated on the island of Jersey, which is situated off the N. W. coast of France but is an English possession, being a part of the Dukedom of Normandy, which William the Conqueror governed when he seized the English throne in 1066, since which time the island has belonged to England.

The breed is a living example of what consistent effort along a given line will do, for the Island of Jersey enjoys an international reputation because of the famous breed of cattle developed there through the persistent efforts of a population whose chief concern is that of animal husbandry. Nature did much for the Island of Jersey in providing it with a delightful climate. The landscapes are said to be picturesque in the extreme and the scarcity of land, things considered, accounts in a measure for the developments of a world famous breed in a country only about eleven miles long and not more than nine or ten miles wide. The total area of the Island of Jersey is less than 40,000 acres, and as a result land is very valuable and holdings are extremely small. A greater portion of the land is owned by the farmers, which is different to the most of Europe where most of the land is owned by landlords and tilled by tenants. Every part of the soil is used to its greatest advantage, and a large part of the Jersey cattle raised on the island are raised under picketing or tethering system, which calls for the greatest amount of personal care, and is the reason why this breed has been so wonderfully developed for dairy purposes. Then, the comparative isolation of the island, in that the exchange of livestock with other countries was difficult for many years, coupled with the devotion of the people to their favorite breed enabled the weed-out of undesirable animals and the blending of the various types which at an early date made a harmonious whole, giving us one of the most

perfectly developed and desirable dairy breeds in existence—a breed, in fact, that has achieved national reputation in almost every civilized country where milk and butter are prized the necessities of life.

Purity of Breed Maintained.

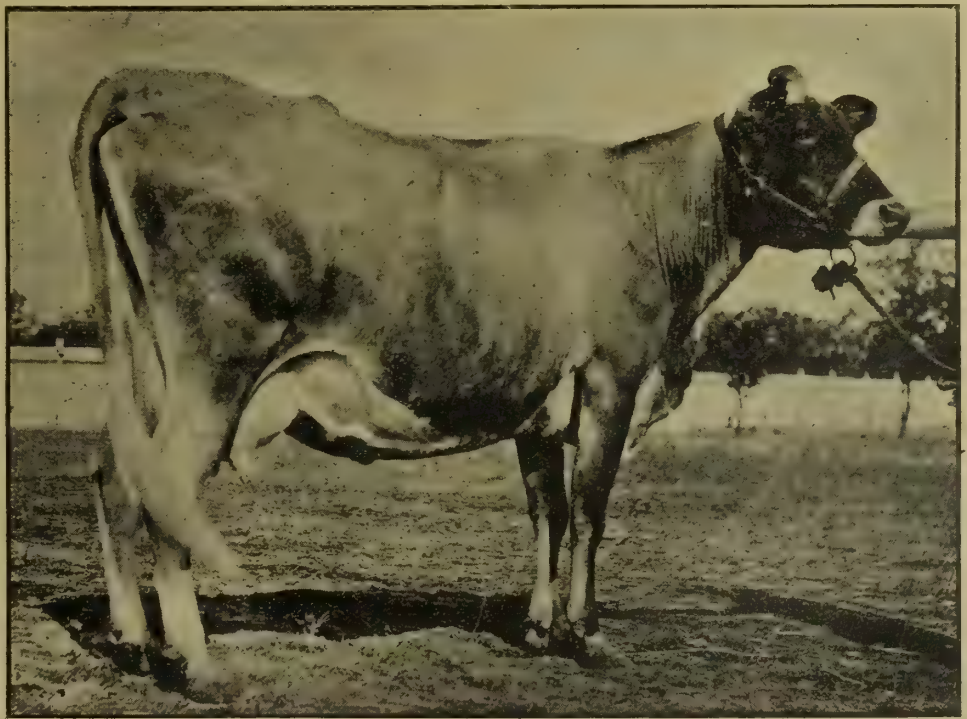
It is probable that the Jersey cattle are descended from the cattle of Normandy, which they are said to resemble in some respects, notably in the cropping out of certain well defined color markings characteristic of this breed. History proves, however, that there has been no admixture of foreign blood with the island cattle for more than 500 years, and it is not surprising that in that time careful breeding, abundant food and the most painstaking care imaginable should have developed animals possessing every desirable trait from the standpoint of dairy production. It can be safely said that for more than 100 years there has been no importation of live stock in the island except to provide meat for the inhabitants which is immediately slaughtered, the introduction of other breeds being for

Island of Jersey Herd Book and through their rules of entry seek to induce breeding from the best stock, and in other ways maintain the excellence and stimulate the advancement of the breed. Any island cow obtaining first, second, third or fourth prize or certificate of merit at a department show is eligible to the herd book. When the first calf of a registered stock is presented for entry the dam must also be presented for examination and qualification. Animals so improved by the society are entitled to the rating or "commended" on the herd book, and those of exceptional merit are entitled to "H. C." or highly commended.

The Jerseys have been well and favorably known in the United States for more than half a century. It is known that a cow was brought from the Channel Islands in 1817 which was probably a Jersey.

In America.

The foundation stock of the American Jersey cattle was imported in 1850 by Thomas Motley of Mass., John T. Norton, and John A. Taintor of



A Typical Jersey

Sweepstakes of Dairy Breed, California State Fair, '07. One of the Venadera Herd, Property of Guy H. Miller, French Camp, San Joaquin County.

bidden by law. This law was passed by the legislature in 1789, which prohibited the importation of foreign bred cattle, imposing a heavy fine in money for any breach of this law, as well as forfeiture of the vessel employed, and providing for a fine on each member of a ship's crew who should fail to notify the authorities of any attempt to evade the law. Subsequent laws have been passed equally stringent.

The mildness of the climate in which the Jersey cattle originated account in part for the perfection attained by this breed, for they can be tethered out from May until October, and they are, for most part, only housed at night during the winter. Grass flourishes in their native land, and with hay and roots constitutes a satisfactory ration.

"Commended" or "H. C."

The Royal Agricultural Society publishes the

Conn. About 18 years later they were imported by a gentleman from Montreal, Canada. Since that time there has been almost a continuous importation. They have been a favorite wherever introduced, and it is not surprising that they became distributed all over the United States in a short time; so much so, in fact, that while they are found largely in both hemispheres, the United States is pre-eminently entitled to be called their home. The milk is extremely rich in fat, probably more so than any other breed unless it be the Guernsey, and many of the Jerseys give a marvelous milk flow when their size is considered. The Jersey cow looks the high bred lady of the cattle race, in fact, she rightly carries the name of "Queen of the Dairy."

Weight and Characteristics.

Well developed cows weigh from 750 to 1200

Concluded on Page 307

Deciduous Fruit Culture

A PREDACEOUS INSECT DESTROYING THE WOOLY APHIS.

A MOST striking illustration of the benefit to be derived from an insect parasite preying upon a pest of the orchard is to be found in Western Colorado, in the recent magical riddance of wooly aphids from all upper portions of the apple trees.

Through the past spring and summer and up to the latter part of July great patches of these noxious lice coated with their heavy white woolly secretions, covered the bark and twigs of the trees, while innumerable microscopic new-born young crawled everywhere over bark, leaves and upon the fruit itself.

Good From Spray.

Early in the season many orchardists did much to reduce the numbers of this louse with kerosene emulsion sprays thereby allowing unchecked growth to the tree. At the time these spraying operations were in progress several natural insect parasites of the pest were also gradually increasing in number and assisting in the aphid destruction. A strange but lively warfare was going on, in which the aphids seemed able to withstand the onslaught of their parasites, and were only routed by a charge of kerosene emulsion in the hands of the orchardist.

The Destroyer Comes.

In the Grand Valley during the last days of July and the first days of August, however, a most remarkable reversal of supremacy took place. Within these few days the rapidly increasing numbers of parasites threw the balance of power to their favor, and the wooly aphids disappeared almost at once. So complete was the work of aphid destruction that there is, at this time—a month later—scarcely an orchard in which a single colony of living lice can be found above the ground. Tens of thousands of dollars have been saved the fruit growers by these little benefactors.

Most prominent and by far the most useful of these aphid enemies has been the "Aphis-lion," or young of the insect known as the "Lace-wing fly." The adult lace-wing fly is a very beautiful insect, bright green in color, and an inch and a quarter across its outspread wings. Its wings are very delicate and finely veined. Its eyes are prominent and of bright yellowish-brown color, which sometimes gives to it the name "golden-eyed fly." We have nearly all seen them flying in the orchard in the evening and alighting upon the green foliage of trees infested with some form of plant louse. Many are seen to start from the foliage earlier

in the summer when the arsenical spray strikes the tree, and at that time some orchardists, with but superficial examination, erroneously take them to be the adult codling moth.

Don't Destroy the Eggs.

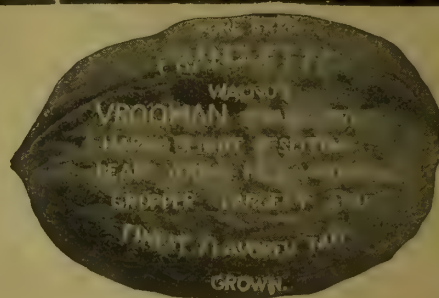
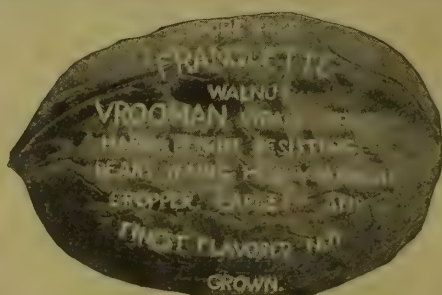
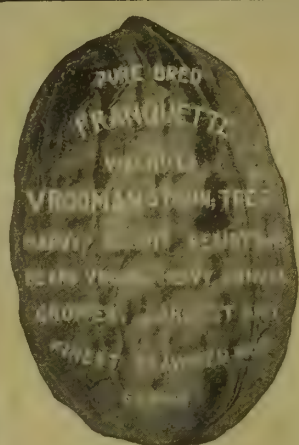
This summer my attention has repeatedly been called by fruit men to minute thread-like hairs half an inch long standing out from the surface of the leaf or side of the apple, each hair bearing an oval knob. These are the eggs deposited by the green lace-wing flies, and they are found in groups of from thirty to fifty and sometimes ninety eggs, each set upon a stilt, as it were. They are often mistaken for an injurious fungus, and I have known orchard owners assiduously to rub them from the apples and leaves whenever they were found. From these eggs hatch the young aphis-lions, which at once begin feeding upon the aphids. Two or three may completely rid a badly infested apple twig two feet in length. It is in this stage that the insect serves the orchardists as a benefactor. They increase in length to half an inch, appearing as gray spindle-shaped worms equipped with stout jaws and having a tapering body. They are voracious feeders and are somewhat cannibalistic in their nature. I have seen a larva holding fast in its jaws one of the green lace-wing flies—the adult of its

own kind—from which it has sucked the juices of its body.

These larvae, when fully grown, change to pupae within small, spherical, finely woven, white cocoons from which, in time, the frail lace-wing fly emerges. As the fly leaves the cocoon, a circular lid is pushed through the cocoon wall. The cocoons may be found in the orchard through the summer within curled apple leaves, tucked away in the crevices of the bark or in the earth near the tree's base. Coring the fully developed insect from the cocoon from which it issues is a marvel that it could be pushed away within so small a space. The parasite is not an introduced one, but it is native to the country, and plays a most important role in checking other species of lice.

Spray Does not Injure.

It is interesting to note that spraying of orchards infested with wooly aphids with kerosene emulsion does not at the same time materially lessen the number of these parasites. In the case of the wooly aphid, all stages are more or less active. On the other hand, the lace-wing fly, which moves quickly away when the spray strikes the tree, does not ordinarily destroy the pupae or hibernating larvae by fraying through the dense silken



LET US EXPLAIN

to you the difference between the **PURE BRED FRANQUETTE WALNUT**—as shown on the border of this Ad—and the ordinary English walnut. When you buy walnut trees, **BE POSITIVE WHAT YOU ARE GETTING.** Guessing is uncertain and often expensive.

Our walnuts for seed purposes and our scions for grafting purposes are all secured from Mrs. E. M. Vrooman's famous **GRAFTED FRANQUETTE WALNUT** grove of Santa Rosa, California. Her grove contains

ONE THOUSAND TREES---ALL GRAFTED

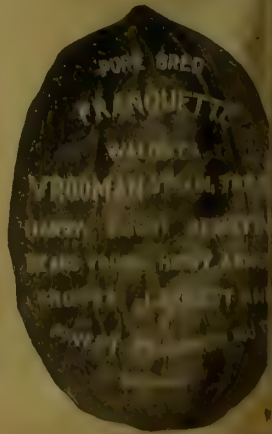
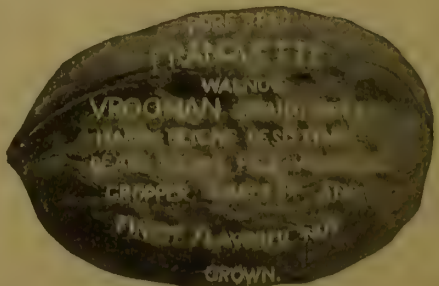
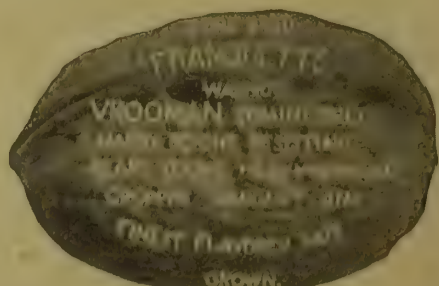
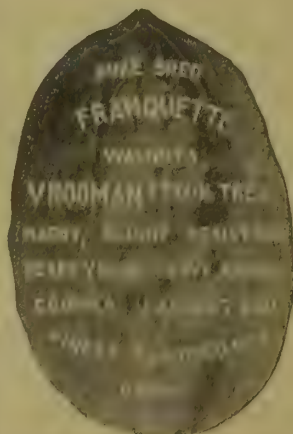
the only large bearing **FRANQUETTE** grove of "ALL GRAFTED TREES" in the world. Write for our **FREE BOOKLET** describing this "King of Walnut Groves" and its record. When you buy trees that are descendants of this grove you make no mistake. We guarantee our trees to be Pure Franquettes.

We cannot tell you much in this small space, but let us write you direct. The Pacific slope—(generally speaking)—is adapted to Walnut culture and is destined to become the center of this profitable branch of horticulture. Why not start now? Address,

OREGON NURSERY CO., Ltd.

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Every One
True to Name

Well developed, with strong,
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Fruit Ornamental

The Largest and Finest Stock on
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I have strong, nicely rooted plants of
the following varieties and can fill orders
promptly:
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Klondyke, \$3.00 per 1000.
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Other varieties later, also full line of
small fruit plants. If interested, mention
this paper and send for catalog.

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Strong one-year seedlings from prolific California
train large soft-shell pecans; \$5.00 per 100, \$40.00
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AUCTION

52 Head
COWS, HEIFERS AND HOGS
100 Chickens
TUESDAY, OCT. 1st.
10 A. M.

On the John Clemison Ranch, opposite
Union High School

EL MONTE

Take Covina Electric cars to Union High
School, El Monte.

14 MILK COWS, Jersey, Holstein and
Durham, Young and in good condition,
fresh and coming fresh, all good milkers;
in fact, all First Class Dairy and Family
Cows.

1 thoroughbred Jersey bull, 3 head 2-
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Brood Sows extra fine, 1 Sow and pigs,
Sows to be in soon

Boars, 25 Pigs extra fine, 100 chickens

Terms: 6 months time will be given
with note and approved security on sums
over \$25. 3 per cent discount for cash.

I am leaving the ranch and making a
genuine closing out sale and everything
will positively go to the highest bidders.
No limit or reserve.

FREE LUNCH AT NOON.

Levi Grist, Owner.
Rhoades & Rhoades, Aucrs.
Office 730. South Spring St., Los Angeles.

coon, so impervious to liquids in its
construction. The summer arsenical
sprays used so extensively against the
other insects of the apple orchard,
seem to have no destructive effect
upon any form of this insect.

The orchardist may protect this
friend of the fruit tree by refraining
from the application of strong con-
tact sprays at times when the "aphis-
lions" are abundant and when they
promise to predominate over the
woolly aphis. For this season, at
Grand Junction, the latter part of
July and the first part of August was
the period when contact sprays would
have been wisely omitted.

In ridding the tree tops of woolly
aphis, the aphis-lions have been as-
sisted by the larvae of two or more
species of lady beetles, and the lar-
vae of syrphus-flies. Unfortunately,
none of these parasites feed upon the
woolly aphis, which infests the roots
of the trees. These must be reached
this fall by exposing the roots of the
trees and either spraying them judi-
ciously with kerosene emulsion, of
not too high a percentage of oil, or
by treating them with some other in-
secticide of known insecticidal value.
Others to Come.

There has been much good done
throughout the country by the intro-
duction of beneficial foreign insect
parasites, and great benefit may be
derived from our knowing and pro-
tecting those useful insects native to
our locality. Temporary successful
destruction of a pest by another pre-
daceous insect, as in the case report-
ed, however, does not indicate that
thorough spraying by the orchardists
is a futile operation. In the control
of injurious insects the ground gained
by natural enemies should be fol-
lowed up with diligence and persist-
ence by the fruit grower.—E. P. Tay-
lor, Field Entomologist, Western
Slope Fruit Investigations.

INFLUENCE OF GRAFTING.

While varietal characteristics are
not transmitted by grafting or bud-
ding, there is no doubt about the con-
trolling influence of stock upon scion
or scion on stock in the matter of
vigor.

The case of the dwarfing of the pear
by putting it on the quince root is one
of the most common and also one of
the most conspicuous illustrations of
this truth.

The quince is a slow growing tree
and one that never attains large size.
The root when used as a stock for the
pear holds back the top from growing
as thrifly as it naturally would. This
is a matter of less nutrition rather than
of nutrition of a different kind. If the
roots had been of pear they would have
furnished more nourishment and the
growth would have been correspond-
ingly greater.

The top of a tree or more especially
the amount and character of the foli-
age has much to do with the growth
of the entire tree, both root and top.
If the foliage is scarce and feeble the
entire growth will be contracted. The
foliage plays an important part in
gathering the food supply from the air
and digesting it.

All the woody part of every tree or
plant which may be consumed by fire
originally came through the foliage
from the air. The part that came
through the roots from the
earth is the ashes left after burn-
ing or the fully completed decay.
Hence, vigor of growth largely depends
upon abundant and healthy foliage.

Taking these two parts of a tree,
the root and top, we see that it is nec-
essary to have them well balanced
when grafted or budded together if
the best results are to be obtained.
There must be a healthy and vigorous
top on a stock of the same character if
we are to have plenty of good fruit.—
Farm and Stock.

A Life Income from Land Investment

7 per cent. guaranteed, payable semi-annually.
No risks. Sugar plantations pay 33 1-3 and
more when in full cultivation. One planting
good for dozen years.

We own 9489 acres of richest land in State of
Vera Cruz, Mexico, near Tampico. Sell you
one to a hundred acres and contract to cultivate
for fifty years and pay you the profit.

Best Crop Profit in the World

No other crop in the world as rich or as certain. Our
plan is simple and safe. Your money does the work
for you.

We Do All the Work—You Stay at Home and Enjoy the Profit

It will pay you to know more of our sugar plantation
profit-sharing plan. George Gould, speaking of this
section, says: "The great Southwest will surprise
the world in the next ten years with its development."
Let us tell you more.

First Class Agents Wanted Everywhere.
Write Us for Complete Information, Booklets, etc.

TAMPICO SUGAR COMPANY

501 Union Trust Bldg, Los Angeles

References: Broadway Bank & Trust Co.

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CLOSE TO THRIVING CITY

Make Money with Ease and Comfort in Suburbs of delightful

LEWISTON-CLARKSTON

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Mild Winters. Long Summers. Clear
Mountain Sunshine. Low ALTITUDE—
Head of river navigation in Columbia-
Snake valley; 25,000 square miles of
rich tributary territory. For over a
generation its fancy fruits have been
bringing highest prices and paying
\$200 to \$1000 net per acre. Pure

mountain water PIPED UNDER PRESS-
URE to every tract by \$2,000,000 irri-
gation works, one of finest in world.
No blizzards; no severe storms; no mala-
ria; no asthma; no consumption. Finest
educational facilities. All of our claims
guaranteed. Investigate this long-
established fruit colony before buying.

Just write for Pamphlet No. 115 or send 15c for panoramic photograph, 8x36 in. postpaid in tube.

DEVELOPMENT LEAGUE, Lewiston, Idaho, or Clarkston, Wash.



Do You Know You Owe

Yourself an Acetylene Gas Machine that you may have
the conveniences and pleasure of the best known light
and gas to cook and iron with on the hot days that are
coming. We have a good machine that works right, and
our best friends are our customers. We want more
friends! You will be one if we serve you! Write to
us just as though you had known us all your life, and we
will be glad to answer or send some one to see you.

Yours for light,

20th Century Light Co.

609 E. Seventh St., Los Angeles, Cal.

YOUR INTERESTS AND OURS ARE IDENTICAL.

You Want Practical

WELL DRILLING MACHINERY

to develop that

Mineral, Oil or Water

proposition; we have it. Guarantee it to work
satisfactorily.

Tell us about the formations, depth, diameter
holes; will send printed matter and
can save you money.

THE AMERICAN WELL WORKS,

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Dallas, Texas

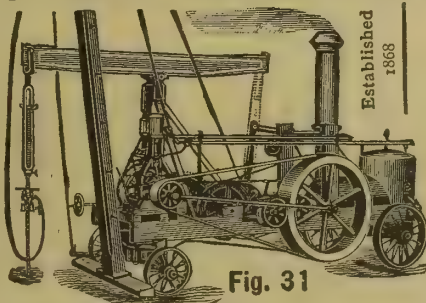
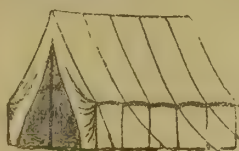


Fig. 31



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Fumigating and Lemon Curing Tents our Specialties

Irrigating Hose, all sizes. Prices and Samples quoted upon application. Write your wants

Mellus Bros. & Co

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Wine Tank

Tanks Tanks

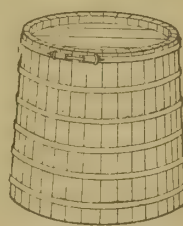
WINDELER'S PLANING MILL AND COOPERAGE

GEO. WINDELER, Prop

Water Tanks, Wine Tanks made from carefully
selected stock by careful and experienced work-
men. "Tanks that are well made last a long time."
It will pay you to get my prices before buying.

Geo. Windeler

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Water Tank

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Warranted to Give Satisfaction.

Gombault's Caustic Balsam



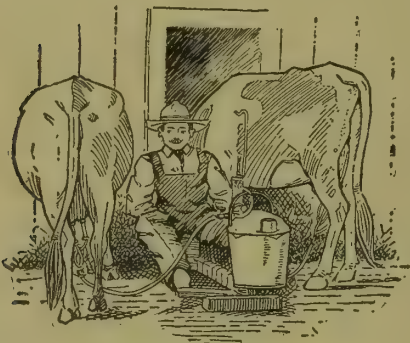
Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for
Curb, Splint, Sweeny, Capped Hock,
Strained Tendons, Founder, Wind
Puffs, and all lameness from Spavin,
Ringbone and other bony tumors.
Cures all skin diseases or Parasites,
Thrush, Diphtheria. Removes all
Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism,
Sprains, Sore Throat, etc., it is invaluable.
Every bottle of Caustic Balsam sold is
Warranted to give satisfaction. Price \$1.50
per bottle. Sold by druggists, or sent by ex-
press, charges paid, with full directions for
its use. Send for descriptive circulars,
testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.

See



The Mehring Foot Power Cow Milker

Milk cows at the State Fair daily.

A. F. Steiner & Co.

Pacific Coast Representatives

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CUTTER'S Anthrax and Blackleg VACCINES

Are given the preference by 80% of
California stockmen because they
give better results than others do.

Write for prices, testimonials and our
NEW booklet on Anthrax and Blackleg

The Cutter Laboratory
Berkeley, California

VENADERA HERD OF REGISTERED JERSEYS

FOR SALE—RICHLY-BRED YOUNG
bulls from cow having High Official Year-
ly Records. Also a few heifer calves of
best breeding. For particulars address

JOY H. MILLER,
French Camp,
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PEABODY WALL CO., COMPTON, CAL

Thoroughbred Jersey Cattle
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Young Stock For Sale
Santa Ana Car to Lugo.

Live Oaks Farm

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Importer and breeder of RED POLLED
CATTLE, SHROPSHIRE SHEEP, RAM-
BOUILLET SHEEP, HORNLESS
AMERICAN MERINO SHEEP. Both
sexes for sale. Take electric car at Pet-
aluma or Santa Rosa for LIVE OAKS
STATION. Address all mail to
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The Whiting Jersey Stock Farm Company

Is making the very best strains of blood fresh
from the island of Jersey a specialty.

Whiting Jersey Stock Farm Co., Heber, San Diego Co., Cal.

When writing advertisers, mention Cultivator

Live Stock and Dairy

SWINE.

THE food for the weaning pig is often overlooked in the rush of ranch work, yet there is a period when it pays to be watchful, for a slight check in the growth means additional feed later on. The loss of a few pounds in weight now may not seem to be of much account, yet successful farming, is saving the pennies to make the pounds of money. When the pigs are three weeks old open the doors of the pen and allow them the freedom of the lot. Place a second panel across the end of the pen, eight inches from the floor, cutting off the sow from the manger. Then feed the pigs twice a day all the warm sweet skimmed milk with a little bran mixed in, that they will eat up clean. Feed the sow her slops in an outside trough. Begin to gradually introduce the swill into the pig's milk after the sixth week. When they are three months old they should be on the regular ration of the other swine. When the time comes the sow will gradually wean them and they will not feel the transition and suffer no check in their growth.

Selling Time.

After weaning, take the sow over to regular corral and let the little chappies have the pen and run to themselves until they are half grown up. If these pigs are pushed right along until they are ten months old, they will weigh two hundred or more pounds according to the breed. Then turn them off promptly to the butcher. It is more economical, we have found for us, to sell or dress them at two hundred pounds weight than to hold them longer. We have milk and brewers' malt and alfalfa to bring them along to this weight. After that the hogs seem to need grain to harden the meat, for they have stopped growing and are making meat and fat. When the growth ceases the food needs to be stronger and dryer and heavier to make firm meat. The last pounds put on to the back of a large hog does not pay net returns on this ranch.

One often finds wisdom in strange places yet, when we consider that jingles and saws come from the experienced wisdom of the people, not from the learned men, it is not surprising. You remember this pig story?

This little pig wen to market,
This little pig stayed at home,
This little pig had roast beef,
This little pig had none,
This little pig said
"Wee, Wee! I want to go home!"

Do not think of the dainty pink toes of the baby that cry out in delight over this jingle, but think of it from a pig-feeders standpoint. The first was a pudgy little fellow that was cheaply fed so he went to market to sell at a profit. The next was a slender one, so he stayed at home until he had more fat on his back. The next pig was fed on the best the land afforded; as to profit, that remained to be seen. The next pig had none and was probably a mate to the first one, while the runt or last of the lot wished he was at home. For he thought the farmer would optim-

Veterinary Instruments, Black Leg and Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

istically feed him for a year hoping for results!

Disease.

Where pigs are raised in unsanitary surroundings, or on low, wet land, and confined year after year, diseases becomes prevalent. The true swine plague and hog cholera are to be dreaded. These diseases are similar in action. A post-mortem being necessary to detect the difference. Swine plague is not believed to be bacterial, while hog cholera is known to have a specific germ. Cleaning up thoroughly is to be practiced in either case.

Hog cholera germ is often carried on the shoes of the attendant as well as by the mud on their clothing. Water also carries the disease freely; I know of a creek that it is not safe to try to raise pigs along, because some years ago, during a seige of this trouble, there lived along the upper stretches of this stream a man whose pigs were dying off rapidly. He offered the remainder to a dealer without saying a word about the trouble. The morning the dealer was coming to see them, ten were dead and as time was too limited to bury them, they were dumped into the creek and floated away to spread the disease along the ranches for several miles.

Safeguards.

Sanitary cleanliness will stamp out any troubles like this in time. We may lose individuals but the race can be saved. All carcasses should be burned, using wood and oil to make a complete destruction of the flesh. Burying as ordinarily practiced will not answer; if buried the earth must be several feet deep over the carcass. Dogs are spreaders of this disease as they seek out carrion. As it is not possible to control the movements of dogs of a neighborhood, we can by burning, put the danger of infection being carried out of their reach.

Whitewash the pens if they are worth it, if not burn them up. Add to the whitewash a 5-per cent solution of carbolic acid. If there are wallows fill those up with earth and cut the hogs off from any running water that may pass along the yards.

Separating.

Remove the well pigs to a fresh piece of ground. A piece of high grain land is a desirable place; build shelters temporarily of poles covered with palm leaves that can be destroyed, if the disease again breaks out. Spray the well hogs with a solution of any of the coal tar derivatives to disinfect them as much as possible. Do not allow anything taken from the old pen to the new place, and have a different man as a feeder. This must be watched as the idea of infection that cannot be seen is little understood among the ordinary people, all this care seeming like fetich rites to them.

One of the government men told me of a case where he had separated the animals and had seen that the whitewashing was properly done and then left after giving complete instructions. He went back the next week and found that the man had put the sick pigs on the new land and left the well ones to sicken in

the old quarters; when asked W. said, "It was all so pretty and w. that I wanted to show visitors hogs in those nice places!"

Remedy.

Cleanliness first, then the following medicine is recommended by government experts:

Sulphur, one pound.

Sodium Chloride, one pound.

Sodium bicarbonate, two pounds.

Sodium hyposulphite, two pounds.

Sodium sulphate, one pound.

Antimony sulphide, one pound.

This antimony is also known under the name of Black Antimony. large tablespoonful of the mixture each grown hog and less in proportions to the smaller ones. The medicines should be given to all the those that are well may be come down with the trouble, while medicine is not harmful but a tonic, if they are free from disease. Give it to those that are eating their slop. If there are some eating, they should be drenched dissolving the medicine or shaking up the medicine in hot water in a bottle, then holding away cheek of the hog from his teeth, put the medicine slowly into the mouth at the side. A hog cannot be drenched by laying him on his back as the fluid will pass into the lungs and cause death.—M. E. Sherman

The Cream of Cream Separators

The Sharples Dairy Tubular is the cream of cream separators—the pick of the whole bunch. Supply can wait low, you can fill it with one hand. All gears enclosed, dirt free, absolutely self-oiling—no oil holes, no bother—needs only a spoonful of oil once or twice a week—uses same oil over and over. Has twice the skimming force of any other separator—skims twice as clean. Holds world's record for clean skimming.



Bowl so simple you can wash it in 1 minutes—much lighter than others—easier handled. Bowl hung from a single frictionless ball bearing—runs so light you can sit while turning. Only one Tubular—the Sharples. It's modern. Others are old style. Every exclusive Tubular feature an advantage to you, and fully patented. Every Tubular thoroughly tested in factory and sold under unlimited guaranty. Write immediately for catalog J-200 and ask for free copy of our valuable book, "Business Dairying."

The Sharples Separator Co.,
West Chester, Pa.
Toronto, Can. Chicago, Ill.

BERKSHIRE BOARS

Pedigreed Registered HOLSTEIN and JERSEY BULLS

Reliable Family Cows
Established 1876. Take advantage of our year experience. Correspondence solicited.

William Niles & Co.
Breeder and Exporters Thoroughbred Live Stock
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Breeder of Registered Shorthorn MILK STRAIN

P. O. Box 321 Petaluma, Cal.

Thoroughbred Poland China Swine

Black Minorca and Barred Rock Poultry

High Grade Stock of Best Strains.

Young Stock For Sale

M. Russell Hanford, Cal.

Geo. C. Roeding, Fresno, Cal., breeder of

Thoroughbred Holstein Bulls and Heifers

Thoroughbred Berkshire Boars and Sows

When writing advertisers, mention Cultivator

THE MILK OF THE GOAT.

At some time the milk goat has been talked up as the poor man's milk, but perhaps because no one in the country likes to admit that he is a poor man, they have made comparatively little progress in popularizing the goat. The goat is the cheapest milk producer, for it is said that the milk required for one milk cow is sufficient for eight goats, while the goat produces, proportionately, considerably more than the cow. It is also better quality—that is, richer in fat and much poorer in the less easily digested elements, albumin and casein. It brings it nearer the human than the bovine standard. The percentages in the three milks are as follows:

	Human.	Goat.	Cow.
fat and casein.....	1.885	3.68	4.00
protein.....	5.85	4.50	4.50
lactose.....	4.44	4.73	3.50

THE AMERICAN COW.

There are nearly 25,000,000 dairy cows in the United States, and enough other cattle to make a total of over 90,000,000 head, including oxen, young stock and "flocks" of herds which range to the valley and all condemned to slaughter. There are less than a million thoroughbred cattle in this country and more than 45,000,000 scrubs. The former are half or higher grades. About 100,000 calves are born annually. The average value of a cow is \$22. On Rhode Island, a dairying State, the average is \$39. The cows of the United States produce about 9,000,000,000 gallons of milk a year (watered and unwatered,) the butter product is nearly 10,000,000 pounds (all grades,) and the product of cheese over 300,000,000 pounds. Our cheese industry is making enormous strides. In a short time the output will be 1,000,000,000 pounds. There is one item, a by-product, which is never alluded to in the Mistress Cow or the Sis Cow is considered. Our gold production is about \$81,000,000 a year at present. It is a vast sum of money. Yet the rakings of our cow yards and the fertilization of crops are estimated to be worth cash eight times as much; or \$648,000,000. Such figures are bewildering. They stagger humanity.—New York Press.

STARTING AN ANGORA FLOCK.

Last fall a subscriber living in Inyo county wrote the Cultivator for suggestions along the line of Angora goat raising. As we have had no experiences with Angora the letter was sent to a well-known sheep man for answer. He did not respond, but recently we noticed in the Shepherd's Criterion, an article bearing on the subject of starting an Angora flock. In the main answering the questions asked by the correspondent in Inyo county. This paper says: "It is not essential to pay big prices, \$50.00 or \$100 for bucks and \$10 to \$12 for does, in large numbers, unless one has ample capital and wishes to spend money in large amounts at first." The better way for a man of small means is to begin with a few first-class animals and build up a flock from these. The result will be satisfactory and the only drawback is the length of time required. After all, this may be the

wisest plan for most beginners to pursue, as the experience so necessary to success will be gained as the flock increases. The Turks many years ago began the practice of crossing Angora bucks upon Kurd does. They probably had in mind the twofold purpose of producing thereby a hardier goat than the pure Angora and of increasing the number of goats in order to supply the increased demand of Europe for mohair. Crossing the Angora bucks upon the common goats of the United States, says the Criterion, has been practiced since their introduction and the results have been satisfactory in many respects. Building up a good mohair producing flock upon this plan requires five or six years. The advantages are that the does with which the beginning is made are cheap, costing from \$1.50 to \$2 a head. During the first and second crosses there are many twin kids, thus increasing the herd in that proportion—a condition not existing except to small extent among the pure bred Angoras; the size and hardihood of the progeny are increased and the liability to disease decrease. Care should be exercised in starting a flock by this method to select only such common does as are entirely white for any other color, however slight is objectionable. If otherwise, the results might be satisfactory, but the probabilities would be the contrary. In handling the crosses the breeder often finds that atavism becomes apparent when it is most objectionable. For instance, the progeny for two generations of a doe having black spots might appear all that is desirable, while the third generation would produce the latent color. It is also quite necessary that the common does should be of the short-haired variety.

"In cleaning the separator urges the dairy editor of the Journal of Agriculture, be sure and see that the parts are dried rapidly so they will not rust; still the drying should not be done with a cloth as much lint will be left and on this will be a large number of bacteria. Boiling water will cause the parts to dry rapidly and evenly and will be death to many of the bacteria."

A good deal of the trouble with tainted cream comes from neglect in cleaning the separator. It is some expense in time to thoroughly go over a separator after each use, but it is the only safe rule.

A young housewife writes to ask what are the best utensils to use with milk? In our opinion metal is the best, and if, we follow the text books there would be no seams in the pails or cans. Earthen ware is without doubt superior to any other utensil for it has no joints and can be easily scalded removing every particle of bacteria.

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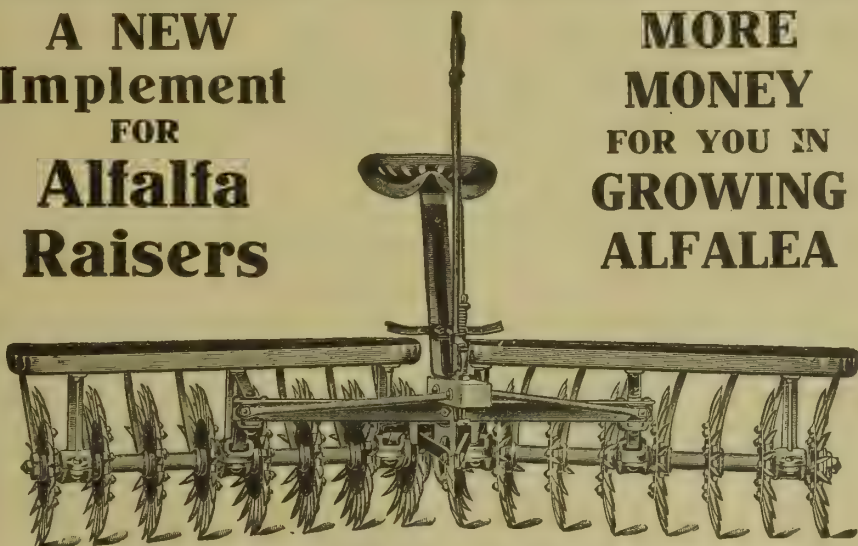
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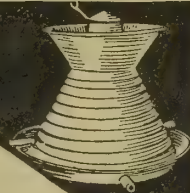
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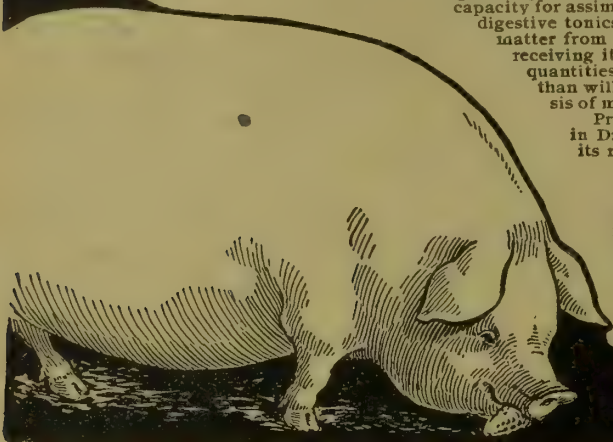
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DAIRYING FOR PROFIT IN IMPERIAL VALLEY.

The dairying business of the Imperial Valley is past the experiment stages, and placed on a paying basis of good profit on reasonable amount invested. A man coming to the valley may purchase his land, or he may rent as his circumstances will permit. If he purchases improved land with growing alfalfa, he may bring his cows from some section of country where they grow dairy stock or have it for sale and get them in green field of alfalfa at once. He will then be ready for continuous work and constant income that far surpasses dairying in most other sections.

A herd of average good selection of Jersey or Guernsey cows, with good feed and regular attention, will produce \$45.00 to \$60.00 a year. Some herds are doing better than this, without counting the value of milk for calves and hogs which will equal \$12.00 a year or more. A man who tends to irrigating the land, if properly leveled, that will pasture about 100 cows, and milk them, or a professional milker can milk 30 cows, which will make an income of \$4.00 or \$5.00 per cow monthly. Water assessment and fence posts and wire and separator and cans cost more than in other localities according to the difference in freight. Living is a little more, probably 16 per cent to 20 per cent. He sells for \$6.00 to \$8.00 in stacks now and some can be bought for \$5.00.

Pasture for hire can be had for \$1.00 to \$2.00 an acre a month, owing to time of year. January and February brings the highest monthly rent. Renter can procure pasture land for \$5.00 an acre, and pay water assessment, keep ditches and border fencing in repair, and make the same as if he owned the land. Cows are scarce and a high price in the Valley. Renter can rent herds of cows with pasture and some hogs, and rents keep up fences, clean out ditches, do all work of making hay for feed cows and do all work on ranch from first to last and get one-half of the cream receipts, one-half of the increase in cows and hogs as a rental.

Eighty acres of good alfalfa with good care and water, divided into fields so as to pasture one-half while the other half is being irrigated and allowed to grow will feed and pasture about 50 cows; or it will pasture only about 65 cows. In the latter case a ton or a ton and a half of hay per cow will be necessary to make up for short pasturage during winter months when feed is short.

ARTHUR S. FELL
El Centro, Imperial county.

WATER THE HORSE.

It is absolutely essential to the health of the work horses that they should have all the water they wish to drink during hot weather. They should be permitted to take it often at least six times a day, when they will not over load the stomach at any one time. More stomach troubles originate in horses during hot periods, where water is not often given than from any other simple cause. The rule is to give a horse water in the field, or on the road wherever the driver drihks. Water thus given will not hurt a horse.

One part tincture of iodine and eight parts sweet oil or vaseline, applied externally, will sometimes remove obstructions in the cow's teat. Make the application once each day directly over the obstruction and massage well to rub the mixture into the pores.



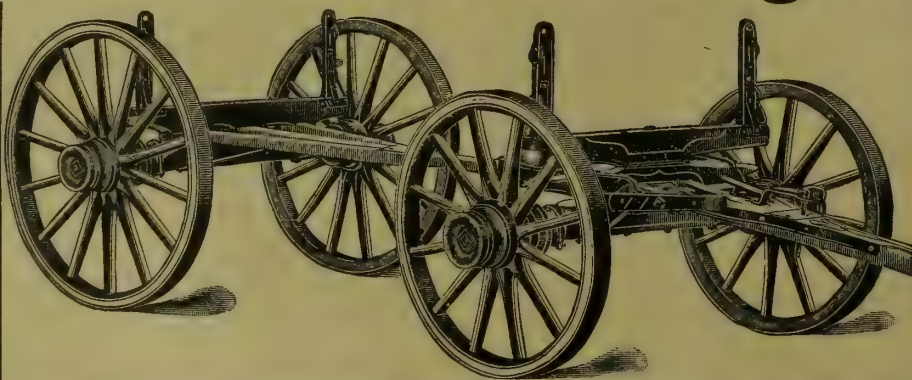
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SELECTING THE BOAR.

Frequently the Cultivator receives letters asking what rule to follow in selecting a boar for the herd. There is no hard and fast rule, but there are certain points which should be well regarded in such selection. About as satisfactory a statement of the qualifications a good boar should have as we have read recently, is the one made by J. D. Cotten, in Farm and Ranch. This gentleman, who is an experienced hog raiser, says: I would select a pig as near a perfect model as we could get, of the breed of our choice. Would want him to have good length of body, but more compactly built and with more finish than if we were selecting a brood

sow, as like begets like, and the boar is considered half the herd. I should be very careful in selecting a pig to keep as a breeding male. We would select him, first, as an individual. Would prefer one out of a large even litter, and one with a strong masculine type, that showed character and vigor, with short broad, head, wide between the eyes and ears, short neck, well arched back, well sprung ribs, deep and full at heart girth, thick, heavy hams, reaching well down to hocks, and well rounded out behind. With straight side and bottom lines (not cut up in flanks), and last, but not least, he should stand on short, stout, straight legs well set, and stand up well on short, broad toes.

In selecting a pig to keep as a

breeder I would look well to his sire and dam as to their individual worth, as to breeding, easy feeding and quick maturing qualities. I would prefer a pig, whose sire stamped his get in a way you could detect and select them out of a mixed bunch of hogs because of their likeness to him and each other. Would select a pig from a large prolific motherly sow, of kind, gentle, quiet disposition—careful mother and good suckler.

I would select a pig with the very best pedigree or breeding record back of him it is possible to get. Would want his pedigree to trace back on either side to the leading prize winning and breeding boars and sows of his respective breed.

There are far too many herds of "all sorts" of cows on the dairy farms of this country.

A damp cow barn is more uncomfortable than a dry one. Ventilating keeps it dry.

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With the Citrus Growers

PRUNING THE ORANGE TREE.

To understand how fruit trees of any kind should be pruned to secure the best results one should have a general knowledge of the habits of growth and of the characteristics of the particular variety of trees he is about to prune.

It is the nature of the orange tree, the pruning of which is the subject of this paper, to grow bushy and to form a low head. This may be recognized as universally true of those varieties of budded orange trees in common culture in California. But there is a difference, some varieties growing more bushy than others. Among the varieties, the Mediterranean Sweet is perhaps the most bushy, while the Washington Navel, the king of oranges, will come next. And as this last mentioned variety is our recognized standard, what may be said in this paper will have particular reference to it, though applying in a general way to other kinds.

Now in the scientific method of pruning, if this term is permissible in connection with cutting brush, clearly this recognized habit of growth should be kept in view. To try, by severe pruning, to change the habit of growth, cannot fail to result in a ruinous loss of vitality. Nature must be respected, even while we make an effort to correct her faults. Her habits may be modified and guided to a certain extent, but may not be radically changed. This is true throughout all her realms. It applies in horticulture among trees and plants, and the same law holds good among men, in the realm of mind, though as yet but little understood in the educational process of the young.

Recognizing these principles as true, let us take a young orchard from the start, or rather let us go back to the nursery and see that suitable trees are selected.

Of late years, nursery trees have been grown without regard to the natural tendencies of the orange tree, in the effort to cater to a popular fallacy, that the tree should be trained up without laterals until it is four feet or more high. That is doing violence to the tree, and it will be avenged. A bud, unless it is unnaturally stimulated by fertilizers, will seldom grow more than twelve or fifteen inches before it sends out branches enough to form a bushy top. And pinching these branches off and pushing the stem up until the fashionable height is reached is taxing the vitality of the tree to an extent that can but be injurious. I would not, however, leave nature entirely to her own guidance. I would rub off the laterals until the stem is two feet or two and a half feet high. Then I would let three or four branches grow, but instead of letting them turn down as is their nature, I would draw them up and tie them to the stake in such a position as I wished them to remain. Thus each main branch, developing into what may be termed a secondary trunk, may be kept in an upright position, while the smaller limbs may hang down. In this way you give the tree all the advantages of a short trunk and bushy top, while at the same time, by a little thoughtful art, so training its growth as to obtain all the advantages of a single high

stem. And from careful observation and experience, I feel safe in saying that a tree trained in this way, other things being equal, will at the end of five years have doubled the growth and the bearing capacity of the tree trimmed in the fashionable style.

Pruning Necessary.

After young trees are set in the orchard, what pruning, if any, will be required the first year? If the trees have not been spoiled by methods, scarcely anything will be needed except to rub off superfluous sprouts, which are sure to be pushed out in the effort to overcome the checked growth and deranged condition resulting from transplanting. If a proper top has been developed in the nursery and leaves left on, new growth will soon start in abundance from the bare branches, where the new top is to be formed, and little trouble will be experienced by growth starting from the trunk near the ground.

After transplanting, the all-important point is to get new growth started quick and in the right place. This is scarcely possible if it has been taken from the nursery with a bare trunk four or five feet high. The checked growth and shock caused by transplanting will, in that case, cause the tree, in obedience to its own nature, to push out a multitude of shoots near the ground. And it usually takes time and great loss of growth before the sap vessels will freely carry up through that useless trunk enough of sap to start a vigorous growth.

For four or five years after being set in the orchard the trees will require what comes properly under the head of pruning. Whatever growth starts on the trunk below the top should be kept off. Branches which grow too long should be clipped, or the tender young growth pinched off, the branches which chance to be injured by frost in the winter should be carefully removed, as carrying dead wood does the tree no good, and your neighbor who lives just over the way, on whose ranch the mercury never falls below 30, however cold it may be, will be greatly shocked to see how the frost has injured your trees.

Remove Dead Twigs.

As the orchard comes into good bearing, a multitude of little twigs in the thickest part of the top will die, and should be carefully removed. But in doing this work only dead-wood should be taken off. Small branches which are still green should be removed, even though they show little fruit. They are useful as long as they remain green. And if these little branches are taken off the main limbs, suckers will start out with vigor, and divert the sap from bearing branches, doing serious injury, apart from the labor required in keeping them off. In going over the trees, such of the lower branches as have come down too much in the way of the cultivator should be taken off. However, it is better, even on these troublesome branches, to use the shears sparingly. But the idea which has frequently been advocated that the whole top of the tree should be thinned by cutting out many branches so that the sun may shine through it, in practice is simply ruinous. It has been urged that this will relieve the

tree of scale pests, on the assumption that the heat of the sun will kill them. But careful observation will show that both the black and brown scale will prosper on surface limbs where they receive the direct rays of the sun. I have made careful examination touching this point and find the bugs on branches on which the sun shines all day apparently in robust health.

Let him who uses the shears on the orange tree bear in mind that the leaves constitute the laboratory, or workshop, where everything that enters into the substance of the tree or its fruits is brought into available form. Hence, whatever robs the tree of its leaves, be it the pruning shears or a fierce norther, takes away to the same extent, the productive force of the tree, and leaves us poorer in pocket.—B. Edmiston.

IT'S PENNY WISE.

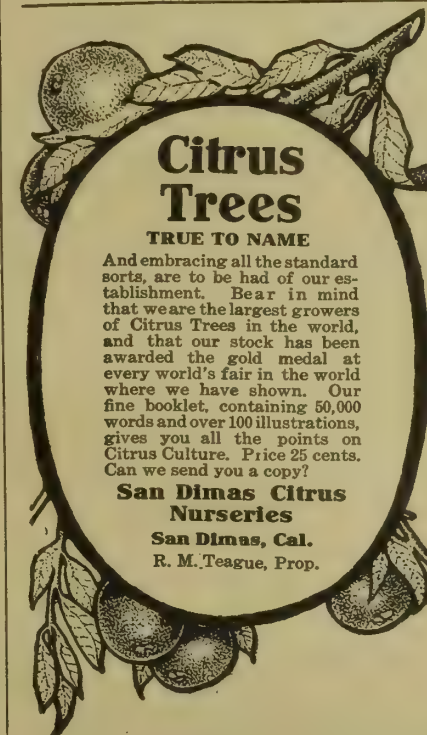
Policy to set out a good tree, costing good money and then let the sun burn the bark or the rabbits gnaw it when for \$1.00 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Manufacturing Company, 1380 Willow Street, Los Angeles.

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The Vegetable Garden

THE HOME GARDEN.

THERE is no country under the sun so favored in the growth of small fruit as the Pacific Coast, so there is really no reason why every owner of a plot of ground should not have a supply of the different berries for the table. Grown for home use it is a pleasure to care for them, and to pick the large luscious berries washed in the sparkling dew of early morn is a joy. And then compare such berries with those purchased on the market, that are covered with the dust and filth that is blown around the streets of the large cities. But few plants are required for an ordinary family, 100 to 500 strawberry plants if properly cared for is a great plenty. Two or three dozen each of blackberry and raspberry plants take up but little space and would furnish enough for the table and for canning. A row of Loganberries or Mammoth Blacks trained along the fence would not only furnish an abundance of berries but would cover what otherwise might be an unsightly spot. If you have a rod of ground that you can call your own it is a duty you owe to your family and yourself to improve it with fruits, vegetables and flowers.

In raising berries for the home or for market it is necessary that the ground be properly prepared. It should be spaded or plowed deeply and thoroughly worked until every lump is worked out. The ground may be fertilized with barnyard manure, but only that which is well rotted should be used. Among all the berries grown strawberries are most favored and in the Southwest can usually be picked every month in the year. For the home garden they may be planted in beds four feet wide and any desired length, or they may be set in rows eighteen inches apart and seven or eight inches apart in the row. Planting may be done any month in the year in those portions of the country where irrigation is practiced, but ordinarily the fall and spring months are most favorable. If planted in August or September one can be quite sure of picking berries two months from planting, and then fall planted vines will usually bear a bigger crop the following year than those planted in the spring. The plants may be set out with any ordinary garden trowel but should be planted so the roots are not doubled up. If planted in the summer time or early fall before the rains, the ground should be well irrigated before planting and immediately after planting, and every other day until the roots are set and then about every four days. If planted in rows they may be cultivated with a hand cultivator and should be cultivated at least once a week. We believe in plenty of water and cultivation. Plants set out in the fall will not make so many runners as those set in the spring but all runners should be kept pinched off if you want lots of big berries.

Blackberries, Raspberries, etc.

Blackberries in the home garden should be planted in rows six feet apart and about four feet in the row. This is also the usual distance for raspberries and Logan berries. Blackberries should be cut back every summer to about four feet and raspberries to about two feet and a half in Southern California and the hot interior valleys. Further north they naturally make a bigger growth. After the

spring crop is over, cut out all old growth that does not show life. There may be a new growth of laterals on last year's cane. Logan berries may be allowed to trail on the ground but are much better on a wire trellis, as the old wood can be cut out better and the berries are more conveniently picked. Care should be used in cutting out the old canes of the Logan, as many of them will have new laterals from which one can get a fall crop and where such growth is made later in the season they will bear in the spring and two or three weeks earlier than from the new canes. Where irrigation is not practiced all vines should be mulched during the summer time, cultivation being done in the spring.—G. H. Hopkins in his catalogue of Small Fruits.

ANTHRACNOSE OF THE BLACK-BERRY.

This disease has been very prevalent during the past season on blackberry and raspberry bushes and in many cases it has rendered the crop unprofitable and stunted the growth of the plant. This is one of the group of fungus diseases, and it usually attacks the young growth, starting on the young canes near the ground. It makes its first appearance in the form of small purple spots, which soon increase in size and number and involve the whole cane. It also attacks the leaves which blister and curl downwards. If not checked, the disease will ultimately kill the plant, as it attacks the tender growth and checks its maturity. For this, as for all fungous diseases, the best remedy so far known, is the Bordeaux mixture. All old canes should be removed and burned early in the season, thus destroying any spores that may be on them. Spraying should be done early in the spring before the shoots start out and at intervals afterward. It will do good if the ground under the bushes is sprayed too, and the young shoots looked after as soon as they appear above the ground.

MORE TOBACCO.

As the subject of tobacco raising in California has attracted some attention of late, Mr. H. E. Owen of Burbank writes the Cultivator as follows:

"I have successfully grown, within 12 miles of Los Angeles, about 900 tobacco plants which I have just harvested. They are now in process of curing. The plants are as nice as you would care to see, and have the real southern smell and flavor.

They were grown about one mile west of Burbank in the San Fernando valley. If I am successful in curing this tobacco we will all have a smoke of pure undiluted Havana. I have two varieties: Havana and White Burley."

Beware of the irresponsible tree seller. Stick to the nursery firms that are known to be honest and have a reputation to sustain.

For almost any kind of small fruit the land should be deeply plowed, thoroughly cultivated and well fertilized

Pack your apples in boxes so the fruit can easily be seen and you will be well repaid for the trouble.

FOREST DESTRUCTION IN COLORADO.

Speaking of the havoc wrought with the scenic attractions of Colorado, the Denver Republican says: "Travel where and how we may our mountains, the eye is met with the charred remains of forests and desolate by fire, or laid waste by ax. Attractive as our mountains are how much more so would they be they were as verdant as the slopes and precipices of Switzerland!"

To such a condition has the point of unregulated private exploitation brought the Switzerland of the West. Some of this desolation can probably never be redeemed. Man is the animal which wastes his birthright and seeks to destroy the very plant on which he lives. The vandalism of the individual can be met only by the exercise of the conserving and restoring power of the whole people. What ever may be possible in the way of saving something out of the wreckage in Colorado and in healing the scars inflicted by private money grabbers, the Forest Service is doing and will do.

Olive oil is superior to lard or butter as a frying medium. Meats, potatoes, in fact everything to be fried in a skillet, taste better for being cooked in oil.

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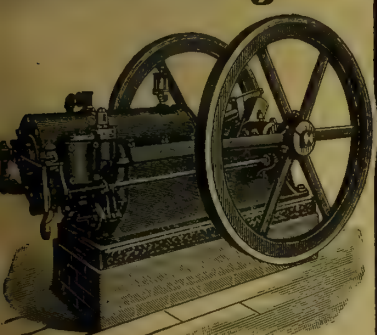
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CHAS. HOWARD
Riverside, California

The Ornamental Garden

COLOR HARMONIES.

GROWTH in California is prodigious, and blossoming is almost constant. Vines which in colder climates bloom once a year in greenhouses are in bloom here for months out of doors. I have in mind the peculiarly colored Bougainvillea as I write. The vine grows to enormous proportions and is in bloom many months in succession. It is a beautiful sight by itself, but what a trial it is when crowded near anything of any color but white. I put my vine at the back of a greenery corner. That is, the foreground was filled in with green grasses, papyrus, umbrella plant and the eulalias. It did very nicely as a background, climbing over a high fence. But in course of time I made discoveries.

I had a very handsome geranium of a peculiar shade of magenta with a white eye. I plucked a spray of it one day and went along to the Bougainvillea and discovered it was of the same tint, only lighter. I did not have any plan in my mind, simply thought that there was one thing which would harmonize with the Bougainvillea. But later in the season when the dahlias were in full bloom I was distressed to find next a glowing scarlet, a very handsome purplish magenta one, and next a brilliant orange variety a pale lavender one, and so on; all through the bed there were clashings of color. Suddenly one morning, as I stood off at a distance looking critically at the combination in the bed, my eye swept toward the Bougainvillea. Instantly I saw color harmonies for the greenery corner. At once the gardener was put to work to spade up a huge half circled bed in front of the grasses. It was well enriched and bordered with bricks. Then into it went all the peculiar shade of dahlias which harmonized with each other and the Bougainvillea and magenta geranium was cut up into many slips and set in for a border alternating with a pure white double geranium. Well, plenty of water and our sunny climate did the work. Of course, the dahlias died down and were cut back, but they sprang up again and in two months that corner was not only beautiful, but growing famously. I think I take more genuine pleasure in looking at it than in anything in the yard.

The colors are so different from the reds and yellows that they are restful, and the shadings and harmonies of the colors are particularly grateful to one's sense of artistic effect.

Delighted with this result, I turned my attention to another difficult color. That is the orange peculiar to the tiger lily. Now a double tiger lily is just as handsome as it can be, provided there is nothing harsh near it. Among the lilies of the same shade are the superbums and the Montbretias. These were in different parts of the garden where they could glorify some isolated spot. They could very well be arranged together in some place where there was a suitable background. That must necessarily be green, so after looking about for sometime, I discovered a place where there was a background of a huge pampas grass, and a nearby Bird of Paradise shrub. Now its flowers combine that odd orange yellow which the lilies hold, with a

brilliant scarlet, so that a bed was made in this vicinity for the lilies, and there they glow in the August weather.

It takes time and experience to harmonize one's colors and arrange the blooming time of different plants simultaneously. For instance, the lavender Solanum Grandiflora, blooms at the same time of the year that the pale pink Tecoma blooms. Both being vines, I planted them some three years ago to cover a little brown garden house. They have grown and thrived, and cover the end and side and roof of the little house, and are an exquisite blending of color, both being in bloom at the same time. But inadvertently I placed Madam Pollock geraniums in the bed in front of the shed, and while they were not in bloom their pretty leaves made a very attractive border for the vines, but unfortunately, Madam Pollock likes to bloom as well as the rest, and the bright scarlet blossoms kill the delicate lavender and pink. But as soon as the lavender plants cease blooming, I shall have them placed in the bed ousting Madam Pollock and the gray of the foliage will be beautiful there, and the tiny lavender spikes will harmonize with the flowers on the vines, and all bloom at the same season.

The brown lath house is covered with vines. They are placed with considerable thought. For instance, the Bignonia Venusta blooms in the spring of the year. It is an impossible yellow, very handsome, but needs to ruminate by itself. After it has gone by the pale blue plumbago, than which there is nothing in plant life of such an exquisite shade, comes into its own. A white moon flower and a white clematis is also run riot over the lath house. There is a Bignonia Tweediana attaining size there and its pale yellow bells are very lovely with the plumbago. Another year and the lath house will be lost to sight by the riot of these vines, as each grows to enormous proportions in course of time.

Vines are the most satisfactory of plants in the sunny southland. They make for shade and their blossoms add to the beauty and brilliance of the scene, but great care must be exercised in placing them, due regard being given their colors and their period of blooming. They are rapid growers and ample space must be allowed them, and much judicious trimming and training is necessary to their development for greatest beauty.—Georgina S. Townsend, Hollywood.

Of all tree products, none are so safely and economically marketed as nuts. There is no need to rush them to market, no need for costly refrigeration; they are not perishable and can go by slow freight in any convenient package.

With the wheat, corn and oats crops estimated to aggregate four billions of bushels, there will be no lack of something to eat in this country during the year, and somebody will have work to do in hauling it to the mouths into which it will disappear.

Dr. Elwood Mead, chief of the bureau of irrigation investigations, of the U. S. Department of Agriculture, has accepted a similar position with the Australian government at a salary of \$15,000 a year.

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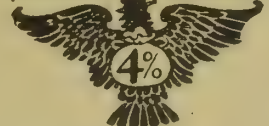
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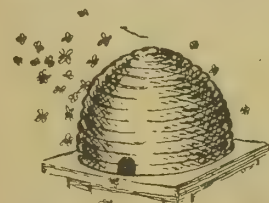
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INDIAN CORN.

With the extension of irrigation in California and the influx of settlers from the Middle-West, will come a greatly increased acreage of Indian corn. This cereal has long been recognized as one of the best grown for man and animals. It will yet be grown in this State, especially in the northern and central sections, as a general crop.

The Des Moines, (Iowa,) Capital, pays Indian corn the following deserved eulogy:

Corn was found growing in America when the white man arrived. The world has known nothing about it before. The natives had planted it for generations in Mexico and Peru. Its progress from that time as a food product has been steady, but not rapid. Europe has been slow to consider it as food for man. Corn is a product peculiar to the colder climates. And anything grown in the colder climates is characterized by solidity and substance.

It is a plant of annual growth and the soil gives more to it than it gives to any other growing plant. It is clean, for all that comes from the soil is clean. It produces the most solid meat and gives out no filth. The stocks become stalwart under the inspiration of sunshine and rain. It is the highest type of annual soil product. It is not

a fruit, nor vegetable—it is grain, golden grain. When waving in the fields in August, it suggests the sea. The stalks bend in the wind and the green blades rustle. Thus an unrivaled picture is presented.

The storms of winter cause it to be appreciated. The yellow ears contain strength and heat. The green blades ripened to brown, retain all their life-giving properties. Crops of corn outside in the snow are superior to the elements, and suggest independence and comfort. It is not soft and mushy, it is solid and substantial. Corn is the type of plenty. It is the friend of man and beast. Strong people come from the corn States and the corn climates.

Where agriculture is practiced in the plains region, the farmer will find it profitable to devote a few acres of good land to trees. It is true that some time must elapse before the plantation will become productive, but, by choice of rapid growing species and by close spacing, the thinnings which will be necessary in a few years will provide material suitable for fuel and stakes.

HE BOUGHT A GOLD BRICK.

The Cultivator has time and again cautioned its readers to beware of the "gold brick man," in the guise of an agent, taking orders and requiring payment by a note. These crooks are afloat in every section of the country and the damage they do to legitimate business representatives of established houses is worse than the damage done by the White Fly to the orange groves.

We find in the Kansas Farmer of recent date a case which is quite common. Bogus agents of stock and poultry foods, of nursery stock and many other farm necessities, are today scouring the country in quest of just such blockheads as this Kansas man showed himself to be, and when they find their man they gold brick him to a finish. Here's the scheme the Kansas innocent was taken in on as detailed in the Kansas Farmer, the principal agricultural journal in Kansas. We quote:

"Editor Kansas Farmer:—A certain man representing the——— came to me in the field and desired that I handle his stock food on a commission, he doing the advertising. I was to furnish the names of all the farmers within the radius of a half-mile drive and he would send the advertising letters, pamphlets, etc. Within about two weeks of the time I gave the order I was to receive the stock food and at my request I was to send for a man to go with me through my territory and show up he food a his expense, introducing him to the farmers. I was to sign a note for the food due in six months. This I did. In case the food did not sell I was to be allowed the privilege of returning same and he was to return the note. I sent the names of the farmers and after a while received word that he had received the names and would notify me at time of shipment.

I never wrote to him again and never got the food.

He cashed the note the same day at the bank and went away. The amount of the note was \$130 for 2,000 pounds of food at 6½ cents per pound.

There was only one witness to the transaction, the livery man who brought him out. There was no written contract, but he gave me a copy of the order. He never sent the advertising and did not comply with one agreement. After several weeks the banker wrote to Bradstreet at Kansas City, and after several days wrote to Dunn at St. Joseph. He received answers from both of them intimating that the man's business was crooked. Since that I have done nothing save consulting a lawyer who told me to have him arrested and brought back here.

The only thing I fear should he be pressed would be to send me a ton of stock food, probably worthless stuff. As I don't want to handle the stuff I would like to get my money back and I would be satisfied. Can I do anything with the man and can I get my money back if he is worth anything? I gave the order for the stock food in May. What recourse have I and what do you advise?
X. X. X."

To this letter the Editor of the Farmer replies:

Perhaps the cheapest way out of a case like this is to pocket the loss, charge \$130 to education, and to be wiser in the future. Possibly an arrest of the swindler might result in a refund of part or all of the money; but there is also the possibility that he would cause the shipment of a ton of something in fulfillment of his contract, and that this shipment, though unreasonably delayed, might be sufficiently near to

meeting the conditions to nullify the prosecution.

The outcome of a suit for recovery of the money would be exceedingly uncertain. There is a homely old adage which says "sue a beggar a catch a louse." Most persons who engage in this kind of swindling operation keep themselves "out of court" so that the result of a lawsuit against such a one is usually expense and no payment of court costs by the person who sues.

The moral is, "Never buy a gold brick." There are excellent stock foods which are manufactured and sold by reputable people. If one does not know how to reason to believe in the responsibility of these people, seeing their advertisements in home papers or other reliable farm journals, he can nearly always get the information by inquiring of the local banker, just as was done in this case, when it was too late. If this method is available write to the editor of any good paper before closing the deal. Very likely the sharer who is trying to "do you" will make it appear very unreasonable for you to hesitate. He knows how to make it look like the reasonable plan to close the deal immediately and very ridiculous to suspect him or his intentions. New mind about that. You have made a living for these years and can exist for a few days longer without engaging with a party of whom you are not informed.

One hundred and thirty dollars is a good deal to pay for such a lesson but it may be worth the money.

THE SECRET OF LONG LIFE.

Cultivator readers will be interested in reading the result of an investigation, made by a noted German physician, on the subject of longevity.

He has endeavored to learn in which countries the greatest age is attained. The result shows that the German empire with 56,000,000 population has only 78 persons who are 100 years old. England and Scotland with a population of 37,000,000 have 192 who reached their one hundred birthday. France and Spain have 213 and 41 centenarians, respectively, while the United States, according to the latest statistics, has 350.

In this connection, of interest also, is the advice given by Dr. John B. Rich, a native of New York, who is believed the oldest living native of that city, being over 98 at the present time, sound mentally and physically, appearing no to be over 60, with strong voice and elastic step. His advice is all the better for the reason that he lives by his precepts, and his eye and condition render him qualified to lecture his fellow-mortals on diet or anything that he sees fit to talk about.

Dr. Rich's first proposition is that we eat too much. This has been said before, but never with greater authority. "Two meals a day are enough for anybody," he asserts. "Almost every one eats twice as much as he needs. All through my life I have endeavored never to put anything in my stomach that I did not know my stomach could digest." In addition to these rules, Dr. Rich advises us to keep our feet dry and avoid worry. These rules sound well, and he has proved that they WORK well. By following them he has lived nearly to the century mark, and states that he is now as busy as he ever was in his life.

Practically all recent scientific investigations bear out the statement that people, especially those of sedentary habits, eat far more than they need and far more than they can assimilate. Under this process it is only a question of time till there is a breakdown. By keeping the mind healthy, hopeful and active, and by following a few simple and common-sense rules relating to diet, cleanliness and sanitation, there is no reason why the health should not be improved and longevity increased.

In Germany it is not a common thing to find centenarians, except in Roumania, where there is a proportion of one centenarian to every thousand inhabitants. In this country, the rules of diet, sleep and health are made subservient to wealth, otherwise we would be able to present one of the highest rates of longevity of any nation on the globe. We are living too fast. Dying before our time.

Agricultural Notes of the Pacific Coast

Northern California

Interest in vineyards is increasing in Sonoma county.

Geyserville is taking steps to organize an agricultural club.

The hop crop about Healdsburg is third short of last year.

Placer county held a good district fair at Rocklin last week.

Glanders has broken out among the horses of the Napa State hospital.

New winery built at Healdsburg by Scatina, is handling large quantities of grapes.

The prune crop at Anderson is promised to bring \$250,000 as result of this season's output.

Two hundred Indians came from Nevada sections to pick hops in northern hop fields.

Reclamation District No. 744 is to raise \$91,000 to pay old debts and to make new reclamation works.

Twenty-five carloads of mutton sheep were loaded recently at Anderson stock yards to be shipped south.

Wine grapes are being shipped out of Woodland owing to the trust winery not running there this season.

A new irrigating canal has been opened at Woodland recently, water being received from the Winters canal.

Ninety-five carloads of fresh grapes were shipped in one day last week by the California fruit distributors through Sacramento.

The fruit growers of Yuba county are agitating organization on the co-operative plan, believing thereby, to increase their profits.

Elwood Mead, formerly of the United States Department of Agriculture, has accepted a position at the State University at Berkeley.

A bean grower has been experimenting with Lima beans near Susan and maintains that it will be a successful crop in that section.

Davisville Almond Association sold their 1907 crop under sealed bids, the public not being informed as to the exact price.

David Starr Gordon maintains that "coolie classes" of all nations should be barred from this country. He refers not only to Asiatics, but to Europeans.

Says the Register: The grape crop in the Napa valley for the season of 1907 promises to be a large one. The vineyards never looked more thrifty than now.

Peaches were sold in Sonoma county last week at prices ranging from \$45 per ton to \$65. Freestones sold readily at \$60 per ton. Sonoma county is a fine peach district.

The Yolo Democrat reports the extent of the work of the State Farm at Davis to be far more extensive than farmers generally suppose. A big creamery plant will be put in operation there by the first of November.

A section of Montague in Siskiyou county expects to enter into the cattle breeding business more than in the past. It has heretofore been a feeding and fattening ground for cattle and horses raised in Eastern Oregon and Northeastern California, but recently other outlets have been found for that stock so that those rich lands must provide their own stock for pasturing.

Central California

Raisin prices are still holding firm. San Jose has an "outing farm" for city children.

Five and one-half cents have already been paid for raisins.

The Industrial Exposition of Stanislaus county is being held in Modesto this week.

Lodi grapes are being picked at a rapid rate, and the winery there is crowded to its limit.

A couple of Fresno raisin growers have a wager that Muscat raisins will yet reach six cents.

Lodi grape festival was celebrated last week. Queen Zinfandel had supreme control of the town.

Central California Bee Keepers' Association held a meeting recently at Hanford addressed by Prof. Rankin.

The Turlock Journal claims that its cantaloupes have been pronounced superior to the famous Rockfords of Colorado.

The sinking of wells recently in Section 29 near Bakersfield, has developed an almost inexhaustible supply of water.

The president of the State Board of Agriculture has the following from James Wilson, Secretary of Agriculture:

A new raisin seeder invented at Fresno on a thorough trial is proving satisfactory and it is hoped will break the raisin seeding combine.

At the recent raisin festival at Fresno that county exhibited some fine looking corn and is now planning to be almost equal with Iowa as a corn producer.

The raisin driers were given a start last week by the prediction of showers by the weather bureau, which would have done great damage. Fortunately the weather bureau was wrong.

Kingsburg Recorder is publishing a column of reports from fruit growers which show exceptional returns. Amongst the items is that of one grower with fifteen acres of peaches who secured \$4000.

Raisin growers of the San Joaquin valley are urged to form "stand pat" raisin clubs in their school districts. The idea being to create a sentiment looking toward securing for the grower a full price for this season's output.

Your letter of August 29th, in acknowledgment of my telegram, is received, and I am much pleased with it and with the information you give me to the effect that matters in the fruit trade are adjusting themselves. We will try to take care of your people over here.

The United States Consolidated Seeded Raisin Company has asked for an injunction against the Chaddock Company forbidding use of the newly patented raisin seeder. The Chaddock Company, however, claims its invention is in no sense an infringement on the older seeder.

The Porterville Enterprise calls attention to the fact that White Fly fungus has accomplished much in Florida in eradicating the White Fly, but bear in mind that all fungus calls for a moister climate than California has, to accomplish much in eradicating anything as prolific as the White Fly.

Southern California

Coachella reports the sinking of a large number of Artesian wells.

San Fernando Press is appealing for reorganization of its farmers' club.

Thousands of acres of pasture were burned back of San Jacinto recently.

Three thousand head of thoroughbred ewes is the latest importation into Imperial.

Anaheim walnut growers are urging the combinations to fight walnut dip patents.

El Modena ranchers are putting out peas, beans and tomatoes for the winter markets.

Large shipments of Cornichon grapes from Riverside is proving very profitable to growers there.

Government officials plan to collect fifty millions pine seeds for mountain nurseries for reforestation.

The San Bernardino Fruit Exchange will ship over twelve hundred cars of oranges next season.

The Rialto Orange and Lemon Association plans for increase in its packing capacity the coming season.

Highlands is still holding meetings and discussing plans of ditches for carrying away its storm waters.

Burbank reports the largest output of grapes ever in its history, over forty thousand tons being the output.

The Ojai orange growers are organized to protect their interests, especially any infestation of the White Fly.

The pear crop at Hemet this season will amount to three hundred tons. Most of the fruit was shipped green.

The lumber dealers have met in Los Angeles and fixed a price of 19 cents on orange box shooks for the coming season.

Early planters are already looking at the green fields in the Imperial valley, for the earlier grain plantings are already up.

The price of walnuts this year, together with the output which is now found will be larger than anticipated, is making walnut men smile.

Twenty-five scrapers are at work on the Colorado river levee near Yuma giving assurance of greater strength for the next flood season.

The Anderson-Barngrover Company is continuing its fight against the walnut growers of every section of the south which used chloride of lime formula in bleaching.

The Redlands Citrograph says that the idea of special trains for hogs which are made out of the Imperial valley is hopeful, because it indicates that the rest of the folks will now have a chance.

The Imperial "Vigilance Committee" an organization brought into being to put an end to the land jumping by squatters who were after choice locations, is in readiness for business in case of need.

Some southern papers are recommending early planting of grain to get the advantage of earlier rains which some are predicting. Some of the best grain growers maintain that no grain should be planted later than January 15th.

The Coast

McMinville, Oregon, fair will be held next week.

The State Fair at Salem, Oregon, was held last week.

A new cannery is putting up peaches at Free Water, Oregon.

Indian hop pickers have been used in the north Yakima hop fields.

Salem, Oregon, reports alarming quantities of mold in its output of hops.

Shortage of harvest hands is the cry in the grain fields near Pullman, Washington.

One firm has bought one hundred and ten carloads of La Grande, Oregon, apples.

The grain of the Lewiston country is said to run between ten and fifteen million bushels.

A preparatory class in agriculture is to be established by the Idaho Experiment Station.

The Hazelwood Creamery Company lost its branch house at Portland in a fire recently.

The quantity of Oregon hops is said to be exceptionally good, and is now practically all gathered.

Grain in the vicinity of Washtucna, Washington, is expected to be all harvested by the end of this week.

A rain storm in Eastern Oregon and Northern Idaho about the first of the month did much damage.

Over \$4000 worth of choice fruit was shipped from one forty-acre ranch near Garfield, Washington.

Pendleton, Oregon fair September 23rd to 28th. Spokane fair will be held September 23rd to October 5th.

Apples are being quoted at Hood river, Oregon, for Ben Davis, Jonathan and Winesaps, at \$1.60 to \$2.25.

The Northern Pacific has failed to furnish cars to the hay growers of Northern Yakima and loss is feared.

The Tacoma Poultry Association will hold its annual meeting at Tacoma, Washington, December 10th to 15th.

The dreaded disease, black leg, is said to be attacking the spring lambs in the northern part of Washington.

The market men of Tacoma, Washington, claim the farmers are bringing in their old stored eggs as strictly fresh.

A continual scrap is on between Japanese and Chinese employees at the canneries at Bellingham, Washington.

At Tacoma, Washington, there is almost a hay famine because of farmers refusing to ship in at present quotations.

The Hazelwood Creamery Company, of Portland, is investigating conditions in Northern Sacramento valley with a view to establishing branch creameries.

Malheur and Klamath counties in Oregon are greatly puffed up over their success for winning trophies for irrigated fruits at the National Irrigation Congress.

Bankers of Washington are backward on advancing money on the hop crop owing to the low price, and some have claimed that fifty per cent of the crop of that State may remain unpicked.

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2 BUSHEL
SACK

\$1.90

PER
2 BUSHEL
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Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by all largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Hazardous feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledge standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland.
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis and Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

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Main Office and Factory, Petaluma, Cal., Box F.
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Beef Scraps Raw Bone

GUARANTEED ANALYSIS:

Protein.....65%
Fat.....8%

Made of Cooked and Dried Livers, Lungs, Melts and Clean Scraps. No fertilizer ingredients in these Beef Scraps.

GUARANTEED ANALYSIS:

Protein.....25%
Phosphates.....45%

Made of Clean Beef Bones, surplus fat removed. Cleanest Raw Bone on the Market.

Pure, Clean Animal Matter Poultry Foods

WESTERN MEAT COMPANY SOUTH SAN FRANCISCO CALIFORNIA

Lincoln Avenue Poultry Yards

—Capt. Mitchell's S. C. White Leghorns—

Utility birds of the highest grade. They will average from 150 to 280 eggs per year. The eggs will average 2 ounces and over in weight, with smooth, white shells.

Just a few breeders left at half price. **Positively no culls.**

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Lincoln Ave. and Ventura St., Pasadena, Cal.
ALTADENA CARS

A GOOD TONIC

ACME ROUP CURE CURES

FEED TO YOUNG CHICKS WILL KEEP THEM HEALTHY AND VIGOROUS; THE OLD FOWLS WILL MOULT QUICKER AND EASIER; PULLETS WILL LAY EARLIER AND LONGER

LEE'S EGG MAKER

IS THE BEST TONIC MADE

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Beef, Blood and Bone Will Make Your Hens Lay

This is not a medicine but a high grade nitrogenous food. Write for free booklet, "How to make Hens Lay." Our Poultry Foods are sold by all local dealers and manufactured solely by

The Pacific Guano and Fertilizer Co.

Also Pioneer Manufacturers of High Grade Indiana and Yolo Sts., San Francisco, Cal. **acornova.** Write for our free booklet, "Farmer's Friend." Valuable to all farmers and ranchers.

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experiences with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

FOR THE BEGINNER.

WITH the opening of fall fairs, we might say the show campaign is upon us. This is a favorable time for the development of that most infectious affliction, "hen fever." The long rows of fine fowl in the pink of condition; the special ribbons displayed on the coops of the winners; the display of dressed poultry; the even shape, size and color of eggs; the bevys and flocks of admiring spectators, listening to the successful exhibitor, all have a tendency to start the germ, and ere we know it our fever has registered at 103 degrees and our only cure is a pair, a trio or a pen of thoroughbred fowls. The result of this sudden rise in temperature will be different in different people. With some it will die on the fifth day, others on the ninth day, while others it will fall about the 17th day, but with the true fancier it will last 21 days and he or she will find that the case is incurable, and the poultry fraternity will have gained a life member.

Selection of Breed.

After having arrived at the conclusion that it will be impossible for us to live without a few hens, the question naturally arises: "The selection of a breed." What branch of the industry shall we follow? Will it be fancy poultry, market poultry or eggs?

Upon our decision will depend somewhat our selection. If we expect to raise broilers and market poultry, some one of the heavier breeds will be best, but if we expect to confine ourselves to the production of eggs, we should take the Mediterranean.

The Fancy.

Perhaps the breeding of fancy poultry offers the widest scope for one with artistic tastes of any branch of the industry. For is not he who can by selecting, mating and breeding, produce color and mold shape as much an artist as he who, with paint and brush, portrays the same on canvas?

Whatever breed we decide upon, our advice is to carefully study them and learn just what is required for an exhibition specimen. Get a standard, study it, learn the form of the bird that you may know when you raise or buy a bird where it is good and where it is deficient.

In giving advice as to the selection of a breed we always give the same to all, that is, to select the breed you like best. You will find the successful breeder always loves his birds.

Cost of Production.

If your space is limited we would advise exhibition stock. While exhibition birds should have as much room in proportion as the utility bird, yet the returns will be greater. So less room will be required to produce the same aggregate return. Then, too, if we only have a few birds we can give them closer and better attention.

Another thing for us to consider in exhibition stock is, that while the first cost is greater, the cost for feed

is no more than the ordinary kind. At the same time the returns from eggs and stock are far greater. **Purchasing Breeding Stock.**

Having made up our minds as to what branch we expect to take up, the all-important question is in selecting and buying our breeders. Although now may seem to some to be between seasons, yet it is a splendid time to buy. First there are many who, having had good success raising young stock, will sell their breeding stock at a moderate price. Should you buy young stock get as well developed as you can find, and from some reliable breeder. There are many advantages to the earlier buyer.

No matter what branch of the business you enter. The chief reason for getting our birds early is to get them yarded and acquainted with their quarters before the breeding season starts. It also gives you a chance to study your birds and learn something of the characteristics of the breed you have chosen for a partner.

AROUND THE YARDS.

Whole grain is best fed at night.

Sunflower seed fed to fowls in small quantities gives a glossy effect to the feathers.

Change of food is good for growing stock.

No business pays better on an investment of small capital or so quickly developed than poultry.

The incubation of chicks and the shipment by express of the young birds alive to customers is becoming quite a feature in the poultry business. In some ways it is thought to be better than shipping eggs intended for hatching.

Ducks to be most profitable must find a considerable portion of their own food. They will be most likely to do this in a situation where they have access to small streams and low marshy lands which afford food such as they relish in abundance.

First Hen—Have you called on Miss Pullet who moved into the yard last week?

Second Hen—Not I; she is not of our set at all. Why, she is one of those common incubator fowls with no ancestry whatever.

Road dust is the best thing for the dust bath. You should collect your winter's supply while it is plentiful.

Harvey Robbins of Santa Paula, Cal., writes us that a Rhode Island pullet hatched Feb. 1st, brought off a herd of chicks August 14, and that her other brought off her third brood August 21. This is certainly very good and there is no indication of "race suicide" here.

Don't waste a dollar's worth of time and medicines on a two-bit bird; better cut its head off than spend the time in trying to locate the snipe.

Success depends not so much on the breed, variety or strain, as it does the man behind it.

GREEN FOOD AND SHADE.

It is a constant surprise that poultrymen so much neglect two very important aids to the comfort and well-being of their flocks, two things which promote the health and growth of the youngsters and keep the health and strength of the layers, equally; the two things are green food and shade from the hot rays of the sun. When we have asked men why they pay no attention to those two things the answer has almost invariably been, "Why! They take care of themselves!" But they don't take care of themselves, unless both fowls and chicks are on free range, and on range which is comparatively fresh and uncontaminated.

Some Reasons.

There are the best of reasons why we should take care that green food is always accessible. First, it is good economy, as it reduces the consumption of grain-food; when a chick or fowl has eaten heartily of greens it will eat a third to a half less grain. Second, it satisfies the warm weather appetite and cools the food; also it stimulates the action of the bowels and promotes digestion. It was interesting to learn, when talking with the poultry fatteners in the Surrey district of England, that they boil nettles and mix the liquor to the food, to cool the blood and keep the system in good, healthy condition.

The green food which a fowl or chick eats much of when ranging at all serves just such a purpose, cooling the blood and toning the system; green food is to fowls very much what fruit and vegetables are to human beings, they promote the action of the digestive tract and bowels, reduce the temperature by cooling the blood and generally improve the physical comfort and well-being of the birds.

When fowls and chicks are on restricted range they cannot get green food, and the lack must be supplied if we would have them do their best. It is comparatively easy if we but have the will. If we have a lawn mower the lawn-clippings are most excellent for the purpose; weeds from the garden are greedily eaten, and the trimmings from lettuce, cabbage, beet and other vegetables are good. It is surprising what a quantity of such things the birds will eat if we but supply them, and in eating them they seem to satisfy a craving, and eat less of grain foods. The greens are bulky, and when the birds have eaten a quantity of greens there isn't room for other foods.

Special Crops.

Some poultrymen grow special crops for summer green food for the fowls, such as Dwarf Essex Rape, turnips or beets; turnips and beets may be fed tops and all, but rape leaves should be plucked off and fed, taking those from the bottom of the stalk and leaving the stalk to shoot up and grow more leaves. In many cases the yards of the fowl houses can be used to grow the special green food crops and are the better for it. Where one has duplicate yards one can be sown to a green crop while the fowls are running on and cropping the other, and if the duplicate yards are north of the house the birds will enjoy the shade they find back of the house in summer.

Shade from the broiling heat of the sun is as essential for chicks and

fowls as for human beings, and greatly promotes their comfort; it is unnecessary to state that what promotes comfort aids to growth and profits. Some years ago we visited a duck ranch where shade had been provided by making a shelter of brush cut from the near-by woods and piled upon a framework of scantling and fence rails. It was most interesting to see how quickly the ducklings would hunt the shade after eating and drinking, and their manifest contentment with the comfort found under the shelters was a valuable object lesson. The duck plant on which the crude shelters were noted fifteen to twenty years ago has now grown to be a great duck-growing establishment, and huge low-roofed sheds, two or three hundred feet long by thirty to forty feet wide, are erected for shade and shelter.

One poultryman of our acquaintance puts out temporary shade near the coops scattered over the fields. A light frame work is crudely nailed together, stakes having been driven to support it, and rough boards are lightly nailed (tacked) to the frame; this has a slight incline to the south so that it sheds rain as well as protecting from the sun, and decidedly promotes the comfort of the youngsters. On Go-Well farm, where the young fruit trees have not yet attained a size to be much of a factor, it is the custom to turn the colony houses back to the south, so that all of the interior is shade and a foot or so immediately in front of the house also, and the houses are blocked up so that the chicks can run in and out under them at will. This gives twice as much shaded ground as if the house was left down and, as the air freely circulates through underneath, the conditions are just about right for comfort.

A piece of corn field makes an ideal shade-shelter for growing chicks, a small fruit tract ditto, also sunflowers and artichokes; Prof. Graham of Ontario is a strong advocate of artichokes for shade and says the tubers are a good food for fowls.—A. F. Hunter, in American Poultry Advocate.

CULLING OUT RUNTS.

There are sure to be a few runts in every flock, no matter how hard the breeder may strive to guard against them. Usually these runts may be told from the time the little birds are five weeks old. The tone of the "peep, peep," when they are called for feed and the manner in which they carry themselves when moving around show that they can be nothing but runts when grown up. No matter how hard you try or how much feed you put into them they will be nothing but runts. The feed and time taken to make their growth will be practically wasted, as the birds will never sell for one-tenth of what it cost to raise them.

Usually the best way is to kill them as soon as they show pronounced symptoms of being runts. It may appear cruel, but it is better for the birds and certainly better for the grower. Removing them puts them out of their misery and it insures that the other birds will be healthier. Runts invariably contract every disease which is prevalent and carry them to the healthier birds in the flock. By removing them, you may avoid an outbreak in the flock.—Journal of Agriculture.

Hen Fruit Pays. If you want more, feed

Egg-More

Poultry need to be fed a scientifically balanced ration as much as any other stock. Egg-More is just the thing to mix with good grains to make the same a rightly balanced ration. It is highly nitrogenous, very rich in protein, will keep the hen in good health, sustain her system properly, and enable her to lay lots of eggs when they are scarce and high. Just a little fed daily with good grains, or even with bran, as directed with each package, will do it. It can be fed either dry or as a mash. It contains no cheap filler; the hens like it, they eat it, there is no waste. It makes the cheapest Egg Food especially if you can buy your grains at home cheaper than to ship them in. Many so-called "poultry foods" and "egg-makers" are nothing but stimulants and not advisable to be fed regularly. Egg-More is not a strong tonic and stimulant, but merely contains enough condiments to give the food relish and keep the fowls in fine fettle. It will pay its cost many times over in the increased egg yield. 4-lb. package, 35 cents; 25-lb. pail, \$2.00; 50-lb. sack, \$3.75. If your dealer doesn't keep it, we will deliver a pail or sack freight prepaid by us.

West Coast Stock Food Co.

818 San Fernando St. (Through to Alameda) Los Angeles, Cal.

Reasons Why

Every Poultry Raiser
Should Use

A. C. W. Goods

Ask Your Dealer

Because They are free from chemicals.**Because** They are manufactured in Los Angeles—always fresh.**Because** All chaff and indigestible matter is eliminated. No stomach or bowel trouble.**Because** A. C. W. Egg Food is prepared scientifically, feeding to laying hens the necessary elements in the best proportions to produce eggs.**Because** There is no waste to A. C. W. Foods.**Because** A. C. W. Goods are sealed. This insures the consumer obtaining them in their original condition of purity.

We also manufacture Bone Meal, Blood Meal, Beef Scraps

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Baby Chicks All Standard Breeds Eggs

We are the pioneer hatchers in this section. Chicks can be shipped 1,000 miles without loss. Our chicks are hatched in a 25,000-egg incubator and are strong and healthy.

We make no extra charge for crating and can sell cheaper than any others in this line.

Write us for prices on any Standard Breed in any quantity. Eggs from all breeds. Incubator Lots a specialty.

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Los Angeles, Cal.For a **Practical Pointer** in **Poultry Profits** use the**Principal**

They are the best on earth

Principal Incubator Co., Grafton, Cal.Send for New
Price List

POULTRY SUPPLIES

Newest, finest largest, and most central store. Prices the very lowest. Come and see.

Pacific Incubator Co.707 So. Spring St.
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Spargur's Trap-Nested White Leghorns

Laying Pullets six and seven months old from above hens, at \$15.00 per dozen. Also I. R. Ducks and Drakes at \$9.00 per dozen.

H. G. Spargur, Soquel, Cal.

WHITE WYANDOTTES THAT WIN AND LAY

\$15.00 and Up Per Dozen

Mammoth Bronze Turkeys Reasonable. Lakenvelders, per pair, \$8.00; trio, \$10.00.

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BARRED ROCKS

EXCLUSIVELY

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Baldwin's White Leghorns

First prizes San Jose '06, and State Fair '07

Fine youngsters at reasonable rates. Good older stock cheap to make room. Full description of stock and price list mailed free on application.

Frank E. Baldwin

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White Wyandottes Hubbard Stock

Baby Chick, \$2.25 dozen. Eggs half price, \$1 per 15, \$5 per 100. January pullets laying when 17 weeks old. **CANNON POULTRY COMPANY** 2851 Morgan Avenue, Los Angeles, Cal.

WHITE, BUFF COLUMBIAN WYANDOTTES

And Golden Sebright Bantams, prize winners Stock and Eggs in season

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Sold on Free Trial...

Prices positively lower than any other—no exceptions.
Redwood Cases, Copper Tanks,
Nursery, Double Walls and Top.

STOP!

LOOK!

LISTEN!

We have 30 latest model "Old Trusty" Incubators on hand.
As long as they last they will be closed out at lower prices than ever.

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Is the time to buy the **Best Incubator** and save a few dollars. ...Just write me for price list—it proves every statement. ...Sold on free trial to everyone—everywhere. ...We pay the freight. **Free 124-page Catalogue.**

Send for it to-day, also free Poultry Lectures.

E. E. McCLANAHAN

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EGGS FOR HATCHING

All Eggs are from good, strong vigorous stock.



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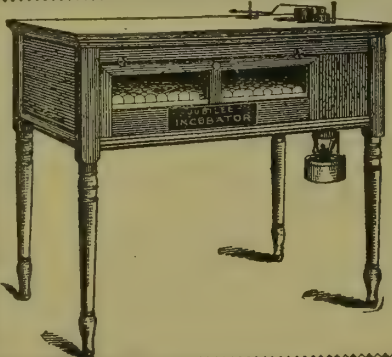
—Breeder of—

Single Comb Buff Orpingtons
White Rocks and
Indian Runner Ducks

Orpington and Rocks \$2 per setting; \$6 per 100.
Duck Eggs \$1.50 per 12.
Write your wants. Correspondence carefully answered.

Box 298.

WYATT & WOLLITZ, Corona, Cal.



The Jubilee Incubator Co.

HAS A BIG SURPRISE FOR
THE POULTRY FRATERNITY

SUCCESS NOW ASSURED BY USING
The Jubilee

We have something new for you. Send
us your name to place on list for Cata-
log "J" being issued.

Jubilee Incubator Co., Sunnyvale, Cal.

California Poultry Culture

Mrs. O. H. Burbridge

The latest book on poultry raising, especially adapted to the beginner, 117 pages with 87 illustrations. Paper, \$1; cloth, \$1.50. With Pacific Fancier one year, the best and biggest western poultry magazine, \$1.25.

235 I. W. Hellman Building, Los Angeles, Cal.

ORPINGTON RESERVATION

ROSS & TATE,
ALTADENA, CAL.

BUFF, WHITE, BLACK

ORPINGTONS

EGGS—PRIZE WINNING OR BREEDING STOCK
One bird or Fifty—One setting or 1000
eggs that hatch, at prices in propor-
tion to quality. Orders booked now
for delivery.

We want you to see our place and birds, and will
give you a reduction on purchases if you will call
in person, but if you can't come send for our cata-
log. Worth money, but free. 1 blk. north, 2 east
of P. O. P. O. box 125. Altadena, Cal.

MRS. A. BASLEY

Is now Editor of the Poultry Paper

THE LIVE STOCK TRIBUNE

The pioneer poultry publication of the west,
the beginners standard, 36 to 50 pages, illus-
trated. Price reduced to 50c per year or 3
years for \$1. Sample copy free.

Mrs. Basley would like to hear from her old
friends, address

301 Copp Bldg., S. Broadway,
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White Plymouth Rocks and White Leghorns
200 large, healthy exhibition and breeding speci-
mens for immediate disposal. Prices that will
please you. Eggs if you want them. Call or ad-
dress J. W. Whitney, 413 E. First St., Long Beach, Cal.
Yards at Willow Junction.

WHITE WYANDOTTES EXCLUSIVELY

Good, White, Typical Birds. Stock and Eggs For Sale.
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Also kills lice and bugs and ants on
fowls and plants and about the
house. No injury to plants. Best
insect powder made. In sifting
cans 25c and 50c, delivery prepaid
if your dealer doesn't keep it.

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For spraying in and about the
poultry house, **WEST COAST
LICE KILLER** can't be beaten.

SHADE'S RHODE ISLAND REDS

The World's best layers. Our fold-
er for '07 is ready. Drop a postal to

J. W. Shade San Bernardino, Cal.

AMERICAN POULTRY ASSOCIA- TION BRANCH.

There will be a meeting Tuesday
evening October 8, at 7 p. m. at As-
sembly Hall, Chamber of Commerce
building, 128 S. Broadway, Los An-
geles, for the purpose of organizing
a southern branch of the American
Poultry Association. All interested
in the National organization and in
advancing the poultry interest of
California, are requested to attend
this meeting. Business will be trans-
acted until 8 o'clock, then an inter-
esting program will occupy the bal-
ance of the evening.

SPECIALS AT STATE FAIR.

Following are the special poultry
prizes awarded at the State Fair at
Sacramento last week:

Asiatic Class—Mrs. E. F. Reid,
first; Mrs. F. M. Newbert, second.

American Class—J. D. Canney,
first; T. J. Simpson, second; M. Bas-
sett, third.

Mediterranean Class—Percy Ward,
first; G. S. Meadows, second; M. Bas-
sett, third.

Bantam Class—R. A. Rowan, first;
Geo. Burch, second; Geo. B. Nugent,
third.

Game Class—Percy Ward, first.

Ducks—U. G. Huntley, first; Mrs.
M. E. Plaw, second.

Largest and best display of fowls
in the show—R. A. Rowan, first;
Geo. Burch, second; G. S. Meadows,
third.

Best display any single variety—
Mrs. D. A. Robertson, first; J. D.
Canney, second; R. A. Rowan, third.



Poultry Building
State Fair Ground

CALIFORNIA POULTRY CULTURE.

A practical book containing 180 pages
edited and published by Mrs. Bur-
bridge, has reached our desk. The
book is full of information every
poultryman should know; it contains



Mrs. O. H. Burbridge

illustrations of many of the stand-
ard varieties of poultry, practical and
sensible houses and appliances for
the beginner. The book can be had
for \$1.00 by addressing the author.

Dr. G. O. Smith, Director of the U.
S. Geological Survey, is visiting in
Southern California.

NOTES OF THE FAIR.

The counties did themselves proud
and made a fine display—at least 21
out of a possible 57 did.

Prof W. L. Carlyle who judged all
the stock, is dean of the Agricultural
College in Colorado, located at Fort
Collins. He has an international rep-
utation as a judge of all classes of
live stock and is recognized as an au-
thority on types and breeds.

The stock parade was a great show-
ing and called for applause from the
grand stand.

Guy Miller formerly of Riverside
now of French camp, had some mag-
nificent Jerseys on exhibition.
Amongst his winning were the sweep
stakes in dairy breed, age herd, also
first and second senior champion
cow.

The Howard Cattle Company has
a magnificent string of cattle pre-
sent.

M. Bassett's Percheron stallion
called for most favorable comment
because of his fine form and good
points. The only criticism being
that he was not shown in as good
condition as some others.

J. Crouch & Son whose stock of
Percherons is in charge of Mr. Camp-
bell, is located permanently on the
grounds and made a fine exhibition,
especially in the grand parade of
stock.

The Price Pump Co. had a most
convincing exhibit of their pumps in
action.

Sampson Manufacturing Co. had
regular Niagara of water flow from
one of its monster pumps.

The view over the pavilion from
the galleries was inspiring.

The government exhibit from
Mare Island drew a crowd at all
times. Especially was that the case



Exhibit of Sampson Iron Works
in Machinery Hall

with the wireless telegraph, which
was surrounded at all times by
quivering crowds.

Bean spray pumps were attractive
exhibits and won many compen-
sations.

Murphy's hogs were beauties—
least from a money-making stand-
point.

The Mehling milking machine had
a crowd at its 5 o'clock demon-
stration. Many a farmer turned away
with "By jolly, that's all right."
was in charge of Steiner & Co.

Baker & Hamilton had several ex-
hibits. A fine display of creamery
and dairy goods in the pavilion; also
in the machinery wing an exhibit of
pumps and engines, while the crow
puller was the power milking ma-
chine at the grounds.

Remember the Alamo was there
also. A little engine running a little
dynamo and creating an electric light
exhibit which attracted attention.

J. B. Wagner of Pasadena had his
exhibit of rhubarb, genuine Wagner
rhubarb too, and it attracted attention.

The State University exhibit was
instructive and on education, at least
as to the scope of some of the work
of that institution.

California Horticulturally

CLEAN UP FOR INSECTS.

AS THE summer season approaches its end and the deciduous trees drop their leaves, many of our worst insect foes appear. There is a marked synchism between plant and insect the latter being especially dependent upon the former. When they are awakened from their winter dormancy and put forth their vigorous growth, is the season when insects appear in the greatest numbers, the strength of these destructive forces depends largely upon the vigor of their food supply. Now, when deciduous vegetation is preparing for winter's rest, myriads of insects which winter in the dormant stage, taking refuge in the soil, beneath leaves, in decaying wood and beneath the scaly bark of neglected trees. There is no better preventative against attacks from these pests next season than thorough cleanliness during the late fall and early winter months. And in this case an ounce of prevention is worth several pounds of cure. Every insect which is destroyed, or prevented from issuing in the spring, is also stopped from starting a brood which might amount to hundreds of thousands before the end of the coming summer. Early

FRUIT GROWERS.

One of the features of the coming Fruit Growers' Convention, at Marysville, will be the presence of Governor Gillett who will, unless the unexpected happens to prevent, be present and give a talk in relation to the great and important industry. It may not be generally known, but Governor Gillett is one of the best informed men in the State in matters pertaining to horticulture and has taken a great deal of interest in all matters pertaining to it in the past and understands it thoroughly in the present. The fruit growers may look for a good talk from him at their convention.

...

PEAR BLIGHT STILL WITH US.

In the excitement over the discovery of the White Fly, the pear blight, which has riveted the attention of the orchardists for some years appears to have been forgotten. The pear blight is still with us, but it has been so far brought under control that pear growing may be made profitable. Constant vigilance is necessary and the most careful work for eradication. Those who have taken care of the orchards this year have made big profits, and are very sanguine that they can control the disease.

ANOTHER OUTBREAK OF WHITE FLY.

ANOTHER center of infection of the White Fly pest has been reported. This time from Oroville, and very close to one of the most important of the northern citrus sections. The area in which it was found is not extensive and already measures have been taken to check its spread. It seemed strange, when the White Fly was reported from Marysville and it was stated that it had been there for several years, that it should not have spread outside the boundaries of that city. It is quite probable that colonies will yet be found in other localities and that, in its control, we shall be brought face to face with a serious proposition, as every new area of infestation makes it that much harder to control, and renders eradication more remote. However, the State Horticultural Commission has taken immediate measures to get control of the pest in its new location, and with energetic work we may hope for the best.

Inter plowing will break up the nesting places of swarms and leave them exposed and helpless to the ravages of the elements or the prey of birds. All fallen leaves and rubbish in vineyard and orchard should be gathered up and burned, and these favorite hibernating places be thus destroyed. These measures, backed by judicious and seasonable spraying, will reduce the ravages of insect pests to a minimum.

EARLY SPRAYING FOR PEACH BLIGHT.

While the peach blight has not been so serious during the past season as during the two preceeding years, there is still danger to be apprehended from it, and there is nothing which offers so good a chance for relief as early spraying with Bordeaux mixture of full strength. This should be used in all those sections where this disease showed itself during the past summer. The same treatment is to be recommended for shot-hole fungus of the apricot, which is a disease closely allied to peach blight. Both are fungus diseases, and are spread from spores which are shed on the trees early in the season. These spores take root soon after the first rains, and once firmly rooted are very hard to eradicate; hence the necessity for early spraying.

CALIFORNIA RANKS FIRST.

Both in orchard fruits and grapes, California ranks first of all the States in the Union, and produces 25 per cent of the total value of all such fruits. Of those following next in rank, New York produces about 12 per cent, Pennsylvania 7, Ohio 6 and Michigan 4 per cent. Northern California has the largest acreage in grapes, apples, apricots, cherries, figs, peaches, pears and prunes, while Southern California takes the lead in oranges, lemons, olives, almonds and walnuts.

Of the fifty-seven counties, all but Alpine, Del Norte, Mono, Sierra and Trinity produce fruit of some kind in more or less profusion, although there is a vast difference in the amount of their production; in fact, many counties cannot fairly be classed as fruit growers, having only a few scattered orchards of small proportions.

In addition to the fruits dealt with here, there are others produced on a minor scale, such as blackberries, currants, gooseberries, mulberries, raspberries, strawberries, loganberries, etc., but space will only allow of their being mentioned.—Geo. Robertson, Fresno.

One weed allowed to seed will mean many reinforcements to the weeds.



Does this stream of water look good to you?

It certainly does to the two men standing beside it. They are the President and Treasurer of the company to whom the plant belongs.

It is raising 40 inches of water from 250 feet below where they are standing. This water goes into a reservoir 18 feet above the pump through an 8-inch pipe-line about one-eighth mile long and you cannot see a pulsation in the discharge if you try. It has been doing this for over a year. There have been no repairs, not even new leathers, and it runs better, if such were possible, today than it did a year ago.

How many pump users can say this?

It shows conclusively that it pays to install good machinery.

We have done this for these people and we can do it for you if you give us a chance. Our catalog tells all about it.

Mail us a card asking for it today.

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Corner of Bertie and Gibbs Streets **POMONA, CAL**

Kill-Quick SQUIRREL AND GOPHER POISON



Accept
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IT DOES THE WORK

Effectually Destroys these Orchard Pests

Ask your Dealer for it

Prepared by
WESTERN WHOLESALE DRUG CO.
LOS ANGELES, CAL.

Early Spraying...

The perfect control of the Peach Blight last year by early spraying will cause even more early spraying this year. In order to be prepared to ship all goods promptly we have a

Special Offer For Those Who Place Orders IN SEPTEMBER

Get our catalogue and offers at once. Then you will find it to your advantage to place your order, goods to be shipped in October, November or any time you say. You will sleep better when the matter is attended to.

WE HAVE Bluestone, Caustic Soda, Pumps, and Power Sprayers of all descriptions. In fact

EVERYTHING FOR SPRAYING.

Write to-day stating acreage to spray and kind of fruit.

BEAN SPRAY PUMP CO.

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500,000 FEET OF WATER PIPE

All sizes, Galvanized and Black, slightly damaged. Special Price While It Lasts. Phone or write.

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Price delivered at your postoffice. All seed strictly the best that can be secured.

Winningsstadt Cabbage, per lb.,	\$1.50
White Bermuda Onion, "	2.50
Red Bermuda Onion, "	2.25
Crystal Wax Onion, "	4.00
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All orders shipped same day received

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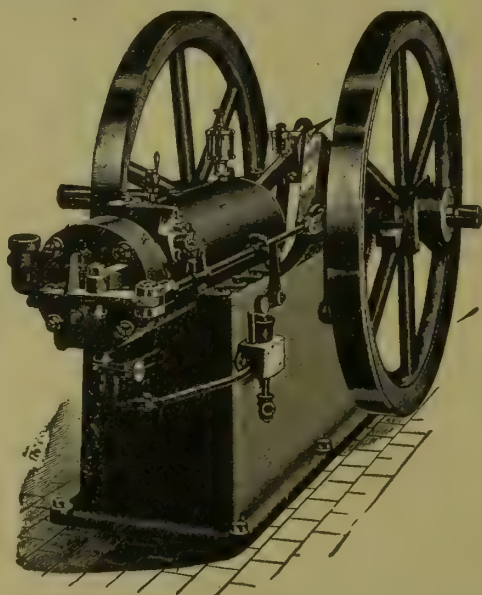
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For the Alhambra Addition Water Co., where we installed four pumps, from one well we pumped 48 inches with the Harris Air Lift, as compared to 30 inches by the old system, using the same power. Records of tests and catalogs mailed upon request. Completed plants installed. Air compressors, boilers and gas engines.

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A Booklet, "The Whole Story About Wood Pipe," mailed free upon request.

VERY CREDITABLE.

Please find check enclosed to balance my subscription until Dec. 1907. In my estimation you are editing a very creditable paper.—J. J. Adams, Dinuba.

LIKES IT.

Mrs. T. M. Coleman of Buena Park, writes:

I like the paper very much and would not like to do without it.

Southern California and the San Joaquin Valley are becoming better acquainted every day. Many little things show which way the wind blows. For instance, the California Cultivator in its agriculture notes now puts Visalia and Tulare county in Central California. Up to this week we have always been in Northern California, as far as the Cultivator was concerned. The new arrangement is more satisfactory.—Tulare Times.

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Pickling Ripe Olives.

Please give me formula for pickling olives?—T. S., Hollywood.

An extended article was given in the Cultivator of May 2 this year, and from it we quote the gist of the information:

The successful production of pickled olives is a matter of experience and depends almost altogether on the individual judgment and skill of the producer. No method can be given which is suitable to all cases, and the best method must be modified according to the nature of the olives to be treated. The following scheme, therefore, is to be considered as a mere outline, to be carefully adapted and modified by the operator at each stage of the process:

1. Place the olives in a solution, composed of two ounces of potash lye to one gallon of water, for four hours. Repeat this once, or twice if necessary to sufficiently remove the tartness.

2. Rinse the olives thoroughly and replace the lye solution with fresh water. Change the water twice a day, until the potash has been removed from the olive, as judged by the taste.

3. Replace the water with brine composed of four ounces of salt to a gallon of water and allowed to stand two days.

4. Put in brine of six ounces of salt to a gallon of water for seven days.

5. Put in brine of ten ounces per gallon for two weeks.

6. Put finally into a brine containing fourteen ounces of salt to the gallon of water.

Inoculation of Vetch.

I wish to sow vetch in the orchard where two years ago we had peas which we inoculated. Last year we had no green crop. Now, must we inoculate the vetch seed this fall and is the same inoculating material used, the same bacteria?—A.L.

If you can get soil from ground where the vetch was grown last year and mix thoroughly a small quantity of it with the seed you will find it sufficient. The inoculation given the pea seed will be of no value to the vetch, but at the same time, the vetch being native here, you will have satisfactory results if you are unable to inoculate at all.

Pear Blight.

I have a Bartlett pear orchard of about 400 trees, and the blight takes toll from them all the time. I keep cutting out the branches that are affected, but every now and then I have to dig up a tree when the disease has got down to the main trunk. In this way I expect to lose from twelve to twenty trees every year.

I propose to replace them with some other variety of pear. Would like to select for this purpose, some kind which is immune to the blight, which is good to mix with the Bartlett for cross fertilizing, and which commands a good market price.

What variety would you recommend me to use?—Alex Craig, Folsom.

We do not know that any pear is immune to blight. It is our opinion there are none. It has been our observation that trees that bear the largest crops do not grow so rapidly

and such trees do not blight so badly. In this way, some varieties get the reputation of being immune, but it is because they are heavy bearers which prevents a rapid growth, which is favorable to the blight. When they are young and making a rank growth, blight is liable to get them. Were we confronted with your conditions, we would plant Bartlett on quince stock. These will commence to bear the second year and will make a dwarf tree, and may not blight. This plan has been recommended by those who make pear blight a study.

Swelling on Hores's Legs.

We have a four-year-old mare that is troubled with swelling of hind legs from ankle to hock. The left fetlock was cut by becoming entangled with a rope and there is a scar. That leg swells most. She was put to hard work soon after breaking and this trouble no doubt comes from strain. When exercised swelling disappears. Your advice as to treatment will be much appreciated. J. B. S., Encinitas.

Ask the druggist for a soap liniment, you do not want a turpentine liniment for that will blister. These troubles are common in young horses and are not serious except when they come from the kidneys. When trouble some we bandage the legs every night with long bandages, three inches wide. If the mare is not in use, turn her out in a corral every day to exercise. Then do not wash her legs with water, this is a common practice that cripples many a good horse with rheumatism. The legs, if wet and muddy when the horse comes in, should be wiped dry with a piece of burlap kept for the purpose, then later brushed to remove any mud.

Ripening Cream.

After churning the usual quantity of cream I received only half the usual quantity of butter. For experiment I churned the buttermilk and received half as much butter as at first and the third time less than on the second. Why does it not all come the first time? Since then several experiments showed similar results.—MRS. J.

This is either improper ripening of the cream or else the churn is full. The cream should be stirred from the bottom and completely mixed every time fresh cream is added. It in the cream jar. No cream should be added later than twelve hours before churning time, except in extremely warm weather. If the cream is ripe for the churn it will be smooth and when a few drops are let fall from the spoon into the can, it will make tiny pits for an instant before spreading out. Taste should be sharp, not rancid. Have the churn not over half full, less is even better. Churn slowly about twenty turns to minute.

Beets for Hogs.

Can hogs be raised for market successfully on a straight beet diet? Can I raise them principally on beets? I could help out with other such things as Kafir corn, sorghum and pumpkins.

Do you know of anyone doing this sort of thing extensively?—J. O. B.

I cannot see any reason why hogs cannot be raised successfully on beets when supplemented with Kafir corn, sorghum and pumpkins. Hogs are fed on the waste of the beet sugar works that, in a measure is often

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Is manufactured by a chemical tanning process, the exclusive property of this company. **It is Superior to any other** and is produced as cheaply as any other leather. The method retains all the desirable qualities of the hide and destroys the undesirable; the result—a perfect leather.

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ered. As to whether it would be financial success would depend on w much of the labor you did your- f, how much the interest on the land ount to, and what the price the al market pays for hogs. The al- fa raised hog fed on the waste from a dairy and culls from the vine- rd and orchard is the competitor be met in the larger markets of ifornia.

in Disease.

have eight four-year-old orange es and three of them are beginning gum on the lower part of the unks. What can I do for them?—C. HOLLOWAY, Long Beach.

Paint the diseased part with crude arboric acid diluted one half with ater. After this has soaked in well, rape off the excrescence and paint ain. In the meantime, give the trees od cultivation and loosen the soil o deeply all around the trees, work some stable manure and next spring ve them some complete fertilizer t up for nursery use about two ounds per tree.

egg Grinder.

Please state under queries and re- lies where I may obtain a good feed rinder suitable for different kinds of corn, bones, etc.—J. Smith, Rose- ale, Kern Co.

If a small hand machine suitable or grinding for poultry is wanted, ny of the poultry supply houses ad- ertising in the Cultivator. If a rger or power grinder is wanted, he agricultural implement houses dvertising can fit you out

curl Leaf.

I have some peach trees set out two ears ago last January and they had url leaf last summer and have it ain this year. What can I do for hem and when shall I do it. Sub- riber, Redlands.

Spray with lime, sulphur and salt ust before the blossoms open in the ring. Put in the solution, one ound of bluestone dissolved to each en gallons. This combination will ill the curl leaf and head off the each worm at one operation.

Pruning Fig Trees.

Can a fig tree be pruned and should e cut be painted with anything after rining?—MRS. H. K., Watsonville.

It is often desirable to prune a fig ee. If the cut is over two inches across, paint it with any kind of paint a day or two after pruning.

Stiffness of Mare.

Is there any remedy for a horse that has been allowed to have water while overheated and is stiff from the ef- fects of it? The animal in question, is a mare of good carriage stock. If the stiffness cannot be cured, is she unfit for breeding?—H. B.

If the case is of long standing it is utterly incurable, but will not affect her as a brood mare. It will not be hereditary to offspring.—Dr. Oliver.

HOLSTEIN TRANSFERS.

COWS—Eva of Riverside, Wakalona De Kol 2d and Zwarte 5th, C. N. Whit- more to C. N. Whitmore Co., Ceres.

BULLS—Paul Courtland, Board of Trustees of the Leland Stanford Uni- versity to Wm. Johnston Est., Court- land.

WATER ALL IMPORTANT.

In the interest of health every vil- lage and, if possible, every farm home, should make strenuous effort to have the purest water that is obtainable. A deep well, which is bored through the solid rock, is the surest means of attaining the desired end. Every com- munity should have some people who make a business of boring deep wells, and wherever there is any interest in this question it is wise to communi- cate with the American Well Works, Aurora, Ill.

TUTTLE'S ELIXIR.

Foreman J. R. Newberry Co. Stables. BAY VIEW STABLES 234 EAST 4th ST.

Long Beach, Cal., June 8th, 1907.

GENTLEMEN: I want to say for Tuttle's Elixir that it is the best Lin- iment I have ever been able to get hold of both for man and beast. I can swear by it by a practical experi- ence in using the same.

James N. Walters.

SMALL FRUIT PLANTS.

The Fairview Farm Nurseries of Burbank, Los Angeles county, have issued a most attractive little cata- logue of small fruit plants. In it is a fund of valuable information as to planting and care, as well as lists of the most desirable small fruits. A letter to Mr. G. H. Hopkins will get it, if you mention Cultivator.

The Compressed Air Machinery Co., 34-40 Jessie street, San Francisco, are advertising in this paper Olds Gaso- line Distillate Engines for all purposes, anywhere from 2 to 100-horse-power. It is one of the oldest and most reli- able engines on the market, and the company will be pleased to send you prices and circulars on application. Ask them to send you Bulletin No. 15.

Continued from First Page

pounds. The bulls weight from 1000 to 1400. Above all else Jerseys at- tract notice by their large and well- formed udders and prominent milk veins.

The valuable characteristics of the Jersey may be briefly summed up as follows: First, the high percentage of butter fat in her milk; second, the high percentage of total solids in her milk; third, the persistency which she assimilates her food, con- milk; fourth, the thoroughness with which she assimilates er food, con- verting it into high grade milk, with little tendency to lay on in flesh; fifth, the early age at which she reaches the period of utility, about two years, and sixth, her economic production of milk and butter.

In the year 1868 the A. J. C. C. was formed, owing to the need of organi- zation and the establishment of a registration system. At this time the herd book was established. Forty- three breeders constituted the origi- nal organization, and nearly 700 mem- bers have since been elected, includ- ing breeders in every part of this country and Canada. The motto of the club is "The Herd Is the Foun- dation of Wealth."

There has been issued up to the present time 63 volumes of the Herd register of the club and over 280,000 animals have been registered.

A Favorite.

From the standpoint of popularity the Jersey is unquestionably the best known and the most favorably consid- ered of all our dairy breeds. Ex- cluding the Holsteins, they equal if they do not outnumber, all other dairy breeds put together. As a family cow the Jersey stands without a rival. She is a favorite because of her gentle disposition and easy keeping qualities. The milk yields an abundance of rich cream, an attraction not likely over- looked by those of epicurean tastes.

The high adaptability of the Jersey to the various climates and agricul- tural conditions to be met with throughout the world is proved and il- lustrated by the way in which the breed has spread over the American continent, from Alaska to Central America, and from Maine to Califor- nia. Over this vast range of territory, embracing every climate, extreme of

cold, heat, moisture and drought, Jer- sey cattle are kept with profit and bred with success, maintaining their peculiar and valuable characteristics and transmitting them to their off- spring. Large and successful Jersey herds are found in nearly every state in the United States, Canada, Mexico, Cuba and Hawaii.

Success with Jerseys, as with all other live stock, will depend very much on the treatment to which they are subjected, but they require no more than reasonable care, ordinary food and kind treatment. The toning of a cow's nerves with a milk stool in the hands of an angry high temper- ed milker has been found to produce results other than good. The more quiet and unexcited they are kept the greater will be the profits returned.

A BUREAU OF STATISTICS.

George Robertson of Fresno says that the difficulty of obtaining reli- able statistics in this State is de- plorable—indeed, in some cases they are quite impossible to obtain, even in quarters where they should be ac- cessible. A pressing want is a State bureau of statistics, with a statisti- cian in every county, not only to col- lect agricultural and fruit statistics but figures relating to all the many industries regarding which reliable information is so often demanded. At the present time, when this State is making such wonderful progress, applications are constantly being re- ceived by local authorities for infor- mation of this nature, which it is impossible to supply.

For the Farmers' National Con- gress at Oklahoma city in October, Pres. John M. Stahl, of the Farmers' National Congress, is putting the finishing touches on one of the best programs the Congress has ever had. The session will open at Oklahoma city Thursday, October 17, at 9:30 a. m., and the enterprising people of that wide-awake city are making every exertion to render the affair one of exceptional success. The sec- retary is, Geo. M. Whittaker, Wash- ington, D. C.

Beaumont will make large plant- ings of eucalyptus this season.

Mica Axle Grease Helps the Wagon up the Hill

The load seems lighter—Wagon and team wear longer—You make more money, and have more time to make money, when wheels are greased with

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H. E. COX, President

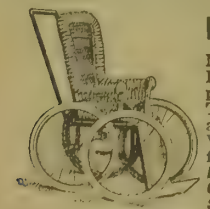


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disc plow easily changed to two, and the four-
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cast iron, insuring wearing qualities.
Heavy power tie-up lines. A high class
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The Anderson Manufacturing Co., Dept. 75, Elyria, Ohio.

Household Department

BILLY MILLER'S CIRCUS SHOW.

At Billy Miller's circus show
In their old stable where it's at—
The boys pays twenty pins to go,
An' gits their money's worth at that!
'Cause Billy he can climb and chalk
His stockin'-feet an' purt' nigh walk
A tight-rope—yes, an' ef he fall
He'll ketch, an' "skina cat"—at's all!

He ain't afraid to swing and hang
First by his legs!—an' maybe stop
An' yell "Look out!" an' nen—
k-spang!—
He'll let loose, upside down, an' drop
Wite his hands! An' nen he'll do
"Contortion acts" ist limber through
As "Injarubber Mens" at goes
With shore-fer-certain circus shows!

At Billy Miller's circus show
He's got a circus ring—an' they's
A dressin'-room,—so he can go
An' dress an' paint up when he plays
He's somepin' else;—'cause some-
times he's
"Ringmaster"—bossin' like he
please—
An' sometimes "Ephalunt"—er "Bare-
Back Rider," prancin' out o' there!

An' sometimes—an' the best of all!—
He's "The Old Clown," an' got on
clo'es
All striped—an' white hat, all tall
An' peakud—like in shore 'nuff
shows—
An' got three cornered red marks, too,
On his white cheeks—like all clowns
do!
An' you'd ist die, the way he sings
An' dances an' says funny things!
—James Whitcomb Riley.

THE SPIRIT OF REVOLT.

MYRA counted the little pile of
bills the second time, then she
rolled them up and put them
back in the tin baking-powder box.

"A hundred and fifty-four dollars,"
she said, as she put the cover on. She
rested her elbows and looked wearily
out of the window. "You might go
this afternoon and put it in the
bank."

Ruth, her younger sister, sat in the
rocking chair beside the stove. Al-
though the October sun shone in at
the west windows, there was a cold
wind blowing, and the warmth of the
fire was very comforting.

Suddenly Ruth spoke passionately.
"I'm tired of being poor, and I'm sick
to death of the way we live."

"So am I," said Myra, without
changing her position or her expres-
sion.

"We never go anywhere, nor see
anything, nor hear anything."

"Or know anything," Myra said
dully.

"It's all very well in the summer,"
said Ruth. "It's fun to see things
growing—the flowers and vegetables
—and to have folks come and buy
them. We work hard, but that's kind
of fun, too, while it lasts. But we
don't have any other kind of fun, and
I'm tired of it."

"So am I," Myra repeated.

"When the fall comes we count up
our summer's savings and put them
in the bank, and that's the end of
everything till the next spring.
Through the winter we just stag-
nate."

"Vegetate," said Myra.

"If only we could hibernate it
would be some satisfaction, but we
can't," and Ruth fell silent again
brooding discontent and rebellion in
her eyes. Presently she spoke again.
"Lots and lots of folks who don't
work half as hard as we do have—
everything. They don't earn it, and
we do. We work hard enough to
have everything we want, and I say
we are fools if we don't take what we

want. It's our right. I don't care
what folks say. We've tried being
poor and honest long enough and
have seen the folly of it. Let's try
the other way for a while."

Myra turned in her chair and
looked at her sister. "But how?"
she asked.

Ruth's eyes flashed and she spoke
vehemently. "Sell the farm and then
go to the city and hire a big house
and furnish it elegantly; entertain,
go to concerts, opera, theater, lec-
tures, and enjoy ourselves generally."

"How could we pay for it?"

Ruth laughed recklessly. "Don't
pay for it," she said. "Pay for the
theater tickets and things like that,
but not for the necessities of life—
house rent, food, fuel, lighting. I'm
tired to death of paying for the nec-
essaries of life."

"So am I," said Myra.

"Let's do it, then."

But Myra was more cautious. "We
might want to come back to the
farm," she said. "Let's take this
money and go to the city and stay as
long as we can, and then come back
home."

"That's so," agreed Ruth, "let's.
Won't it be fun to buy house furnish-
ings on installments?"

"And the grocer," said Myra.

"And the coal man," said Ruth.

"And we won't do a stroke of work
from morning till night."

"No, we won't."

Both fell silent, making plans.
Their faces were lighted up by new
hope, and they smiled at each other
happily.

"I don't see why we can't go by the
first of November—all the fall work
is done," said Myra. Then a sud-
den shade of consternation crossed
her face. "But what shall we do
with the house and the cow and the
horse?"

"Oh, dear! I had not thought of
that." They looked at each other in
alarm for some minutes.

"Oh, I have it!" cried Ruth. She
jumped up and walked excitedly
about the room. "Old Mr. and Mrs.
Kelsey would be tickled to death to
come here and keep house for us.
You know they are perfectly miser-
able at the poor-farm."

"Yes, that's so, and we've got
stocked up with provisions and vege-
tables, so it wouldn't cost them
hardly anything to live."

"Why, they'd sell milk at the door,
as we do, and that would almost
keep them supplied with things
they'd have to buy, that and the
eggs."

"So it would."

A little later the sisters had gone
to the city, and the old couple from
the poor-farm were comfortably set-
tled, perfectly happy in their new in-
dependence and quiet solitude.

As for Ruth and Myra, the large
house of their dreams had been re-
duced to three pleasant rooms and a
tiny pantry.

"It's really all we need," said My-
ra.

"Yes," acquiesced Ruth. "We can't
afford to keep servants, and we
don't want any more rooms to care
of."

"And I think we'd better pay one
month's rent in advance," said My-
ra. "We won't have to worry about
that item, then."

"No, said Ruth, craftily, "and
will be easier to get out of payin'
the next month's rent."

They furnished their rooms dain-
ily and simply and made their fir-
payment on the things. The room
were not heated, but they had
large kitchen range which warmed
them sufficiently with the aid of
little oil heater in extreme cold
weather. There being a family
the tentment below, the floors we-
not cold.

And now they began to take con-
fort. Every evening saw them at
concert, a lecture or the theater.
The entertaining had not begun.
Ruth had bought a chafing dish
anticipation of the little parties
would give, but she had not used
except to practice upon. Somehow
they did not seem to find congenial
friends, as they had expected.

The first month passed thus. When
the second had opened with the fun
in the baking-powder box alarm-
ingly low, the sisters began to be
trifle apprehensive. They took
going out separately in the daytim.

One day Ruth came bounding
the stairs and burst into the kit-
en, her face wreathed in smiles. My-
ra stood there smiling also, and her
face very red from working over the
hot stove.

"I've got work," said Ruth joyous-
ly.

"So have I," said Myra.

"I'm going to work in a flower
store. I showed the man what
could do this afternoon, and he
praised my work and told me
come tomorrow for a steady job."

"And I'm going to cook for
woman's exchange," said Myra.
carried some things there day before
yesterday, and they sent me an-
der today, and they think I'll have
all the work I want to do."

After this the sisters went on
evenings less than they had done.
They worked steadily and were con-
tented. Ruth made some friends
the flower store, and the chafing dish
came into use at last.

As they grew more accustomed
their work they fell into the way
going to a play in the middle of the
week, a concert Saturday night
to church on Sunday. The last
February came, and for some time
the sisters had been subject
attacks of melancholy. One evening
they sat together resting after
hard day's work. Ruth was the first
to speak. "I don't know what's the
matter with you, but I am as ho-
sick as death."

"So am I," said Myra.

"I want to get back to the farm."

"So do I."

"I don't think much of this way
living. I'd rather be poor but ho-
est."

"I know I would," said Myra.
Then, with unusual vehemence,
"hate debt."

"So do I," said Ruth. "And I
stallments aren't the least bit of fun."

"No, they are not."

"I wonder how much we owe.
Let's reckon it up and know the
worst. It's hung over me like
nightmare all winter."

"It has over me, too. If I hadn't
been so busy I'd have gone crazy.
It's awful."

"I know it," said Ruth. "It was
lucky we could get work. But
want to get back home. Poverty and
honesty for me, every time."

"My sentiments, too," said Myra.

"Well, let's take the fatal plunge. How much do we owe? Will we have to mortgage the farm to pay?"

"I don't know. I guess not. The furniture is what worries me most," said Myra's brow became furrowed with lines of care.

"Oh, that's all right," said Ruth sily. I made the last payment on at two weeks ago."

"You—" Myra gasped.

"Why, you see, the things are pretty, and I thought they'd come in handy at the farm—we need new furniture there—and so I went and made a payment every week, after I got work. That hasn't troubled me at all, but I have lain awake nights worrying about the groceries."

"Why," said Myra, "ever since I began to cook for the exchange I've paid for all the groceries and paid up the back bill, too. It doesn't cost us much to live, you know. And I've paid for the coal and the kerosene besides."

"Why—why, then we don't owe anything!" Ruth cried incredulously, "or we've paid the house rent together."

"And we've had all our worry for nothing."

"I wish I'd told you."

"I wish I'd told you."

There was a little silence.

"Just the same, I want to get back home," said Myra.

"So do I. And we'd better, too, for the most time to be thinking about getting in our sweet peas."

"And the green peas, too."

Two weeks later they were on the train going home.

"After all," said Ruth reminiscent—"it was considerable fun."

"Yes," said Myra, "but another time I'd go in for honesty and pay out bills from the start."

"Yes, so would I."

"I suppose we could get back our work any time."

"I'm sure of it."

"Didn't we go to lots of plays and hear lots of music?"

"Yes, and we didn't stagnate, did we?"

"Not exactly."

"Let's try it again next winter."

"Let's."—Susan Brown Robbins, in the Rural New Yorker.

IT IS WELL TO KNOW.

That a spoonful of mustard in a gallon of water will kill insects in the earth? This is good for potted plants.

That two potatoes grated in a basin of water will give better results than soap in washing delicate flannels and linen goods, ribbons, etc.?

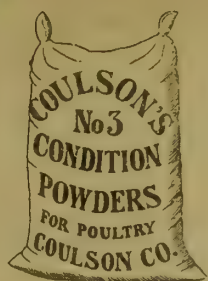
That you can remove the odor of fish paint from a room by leaving there a pail of water into which several onions have been sliced?

That a crack in the stove may be patched by filling with wood ashes and salt moistened just enough to work well. Smooth down neatly and cover with blacking and it will prove not only durable, but more sightly, as well as more safe than before.

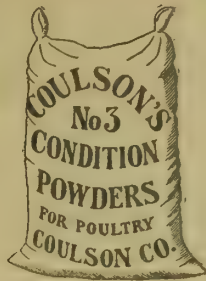
That if an apple or orange is placed in a box of fresh cookies it will impart to them a most delicious flavor? A cut apple put in the cake box will keep the cake fresh a long time.

The Manila street cars carried 20,000 children free on the Fourth of July.

Before the days of coin, the Greeks used copper nails as money.



Coulson's No. 3



Condition Powder For POULTRY

If you are not already using COULSON'S NO. 3 CONDITION POWDER, we would suggest that now is the time of year when your hens most need a tonic, to get them into condition after a heavy laying season. If you neglect them now, and they go through the molt in poor condition, it is likely to take them a long time to start laying again, with consequent loss to your pocket.

WE CLAIM COULSON'S No. 3 Condition Powder

will put the flock in good, vigorous condition, not only enabling them to withstand any possible infection or disease, but enabling them to go through the molt rapidly, and to commence laying again before the cold weather sets in. We practice what we preach, by giving our own hens a little of Coulson's No. 3 Condition Powder three times a week, and although they are beginning to molt heavily, their combs are as bright and red as at the beginning of the season. You will find that it does the same with yours if you give it a fair trial. It will not only do this, but will enable the hens to digest a much larger proportion of their food and thus save your feed bill considerably. Therefore, if you wish to make money this fall and winter, inquire right now at your dealers for Coulson's No. 3 Condition Powder, and see that he keeps a stock so that you have it when you want. Where the local dealer does not keep it, we will make you a SPECIAL OFFER to deliver it freight prepaid to any Railroad Station in California, at the following prices:

10-lb Package, \$1.50; 25-lb Package \$3.25;
50-lb Package, \$6; 100-lb Package, \$11.

Prices prepaid to R. R. Stations in Oregon, Washington or Nevada will be: \$1.75, \$3.50, \$6.40, \$11.50 respectively.

GET SOME NOW AND INSURE YOURSELF
LOTS OF EGGS WHEN PRICES ARE HIGH.

MANUFACTURED BY
**Coulson Poultry
and Stock Food
Company,**

Petaluma California

LINERS

Liner Advertising

Advertisements in Liner Column 1½ cents per word. Eight words to a line. No advertisement taken for less than 25 cents.

LIVE STOCK WANTED.

WANTED—JERSEY DUROC MALE PIG. W. J. COLE, R. F. D. 1, Anaheim, Cal.

GRAPE VINES.

WANTED—100,000 PURPLE DAMASCUS grape vines or cuttings. Advise immediately with price. Imperial Valley Nursery, BOX 31, Imperial, Cal.

PIGEONS.

MALTESE HEN PIGEONS, ALL COLORS. Runts, blue, silver, red, yellow. Write us your wants; correspondence a pleasure; satisfaction guaranteed. W. H. ELLIOT, 728 North Ave. 66, Los Angeles, Cal.

POULTRY FOODS.

ARMOURS BEEF SCRAPS, MEAT MEAL, and Blood Meal for poultry feeding are highest in digestible protein. If your dealer does not handle them write us direct. Circular containing formulae free. THE ARMOUR FERTILIZER WORKS, 736 H. W. Hellman Building, Los Angeles.

BOOKS.

FREE—"THE POULTRY MANUAL," BY those high authorities, F. L. Sewell and Ida E. Tilson, profusely illustrated. Send us the names of twelve persons keeping any poultry, and we will send it to you absolutely free and postage prepaid. WEST COAST STOCK FOOD CO., 513 San Fernando St., Los Angeles, Cal.

HELP WANTED.

WANTED—A NURSERYMAN WHO HAS had experience in fruit tree nurseries and understands budding and grafting. A good opening for a young, energetic man who is anxious to advance on his merits. Also a young man who is familiar with ornamental plants and greenhouse works. Address, BOX 2897, FRESNO, CAL.

WANTED—AN EXPERIENCED MAN (with wife) competent to manage an orchard and vineyard of 240 acres. Must furnish reference from last employer. Pleasant home supplied. For particulars, address M. W. SHIDY, Acampo, Cal.

MACHINERY.

FOR SALE—32-H. P. FAIRBANKS-MORSE distillate engine as good as new. Waite Bailie & Co., Los Angeles.

FOR SALE—5-H. P. WHITE MIDDLETON gasoline engine at a bargain. WAITE BAILIE & CO., Los Angeles.

FOR SALE—IN A1 CONDITION AT A bargain. 35-H. P. Westcoast gasoline engine. 943 N. MAIN ST., Los Angeles.

FOR SALE—CHEAP FOR CASH—3-H. P. pumping engine in first-class shape. 117 BRUNO ST., Los Angeles.

FOR SALE—25-H. P. FAIRBANKS-MORSE distillate engine as good as new at a snap. N. W. Cor. MAIN and BRUNO STS., Los Angeles.

EGGS FOR HATCHING.

AT REDUCED PRICES BALANCE OF season from my prize winning Barred Rocks; won all special and 13 regular prizes on Barred Rocks at late Los Angeles show. Eggs from best pens, \$2.50 per 15; \$10 per 100. Can furnish any quantity. Also offer extra bargains in breeding stock. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

BARRED PLYMOUTH ROCKS, OCEAN Blue Strain. All our breeders for sale without reserve. Eggs, one-half price. Now is the time to buy your breeders for next year. We have lots of good ones. Write today. We live at Moneta, Cal. Take Redondo car, end and Spring Sts., via Gardena. Get off at Illinois St. right on ranch. MR. and MRS. D. T. WIELAND.

WHITE PLYMOUTH ROCKS EXCLUSIVE—The largest flock of prize winning birds in the West. At the late Los Angeles show, 1907, we won twenty-three out of a possible twenty-five prizes. We offer extra bargains in our this year's breeders. Will sell to suit purchaser. Eggs \$2.50 per 15; \$10 per 100. A. J. LITTLE, Monrovia, Cal.

PRIZE BLACK LANGSHANS, SHORT legs, heavy bodies, unexcelled egg-producers. Choice 1807 cockerels, \$3.00; eggs, \$2.00 per 15; \$10.00 per 100; delivery of eggs Sept. 10th. Indian Runner duck's eggs and stock for sale. CLYDE J. MOSS, Corona, Cal.

LAND.

JUBILEE POULTRY FARM—80 ACRES, well improved; 1000 pullets and hens; 2 horses, cow, farming implements, vehicles, 6 large Jubilee incubators and brooders; good roads, good markets; fine for vegetables, berries, etc. Telephone in house; hot and cold water to bath; water piped to all parts of the place; 6000-gallon tank; 4-H. P. Fairbanks-Morse engine, which runs pumping plant, vegetable cutter, shell and grain crusher, washing machine, wringer, churn, grindstone. Plenty good water. \$7500 takes everything. Easy terms, or will trade for 10, 15, 20 acres improved land in Riverside Co.; close to Riverside preferred. WM. MANTZ, Santa Maria, Cal.

FOR SALE—AN IDEAL SITE FOR RAISING chickens. Ideal for a little home, three acres, one and one-fourth mile from two banks, Post office, High School, churches, etc. Electric light wire, curbed and oiled streets. Grand old shade trees, splendid view and drainage. For particulars address, OWNER, P. O. Box 254, Corona, Cal.

IRRIGATED ALFALFA, SUGAR BEET and grain land, \$18 to \$25 an acre. All the water you wish guaranteed by Canadian Government for 50c an acre a year. Good markets. Biggest crops. W. R. GILSON, 411 S. Main St., Los Angeles.

FOR SALE—AT A BARGAIN—FORTY acres best fruit land or fine alfalfa at Lindsey, Tulare Co., Cal. Improved, house, barn, good well. Write Mrs. W. A. FRITCH, Jr., Prospect, Ohio, for further particulars. Price, \$4700—\$2200 cash and balance three

The Produce Markets

Los Angeles Markets

LOS ANGELES, Cal., Sept. 25, 1907.

Butter.

The butter market is claimed to be weak in spite of the fact that reports from the north indicate the firmest of conditions there. Quotations, however, are higher than last week by about 5 cents per roll on better grades.

Creamery extra per roll... 65@67
Creamery first... 60
Dairy... 48
Cooking... 45@47
Eastern... 55@57½

Cheese.

Cal. Young America, per lb... 19
Hand... 20
California Anchor... 18
Northern fresh... 17@17½
Eastern... 17½@18
Imported Swiss... 32
Tulare flats... 18
Domestic Swiss... 21@22

Eggs and Poultry.

Eggs have taken a slight advance during the week, and are now quoted at 37 cents for candled, and it is reported that all dealers are holding up to quotations.

Eggs local candled... 37
Eggs case count... 35
Fresh Eastern... 27
Eastern storage... 26

Market on poultry is in excellent condition, and selling up to full quotations. There is no glut whatever, in the market, and all stock is well cleaned up.

Hens per lb... 14
Young roosters per lb... 14
Fryers... 15
Broilers per lb... 17
Old Roosters... 8
Turkeys... 17@18
Geese... 12
Ducks... 12
Squabs... 1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 lbs... 7½@7¾
Prime steers... 4½@4¾
Heifers... 3¾@4¼
Calves per lb... 5
Sheep, ewes, per head... 4.75@5.25
Lambs per head... 4.50
Wethers... 5.50

Potatoes.

Potatoes remain at practically same quotations as last week, but market is still rather weak with some selling under quotations.

Highlands... 1.75
Early Rose... 2.00
White... 1.90@2.00
Local Burbanks... 1.85@2.00
Salinas... 2.25
Sweet potatoes per lb... 2¼@2½

Onions.

Silverskins per ctn... 2.50
Australians... 2.35
Yellow Danvers... 2.25@2.35
Garlic... 8
Reds... 2.35

Vegetables.

Most vegetables are in good supply and finding hard work to reach highest quotations excepting finest grades of goods.

Beets per doz... 35@40
Bell peppers green lb... 3
Beans wax... 3
Beans Limas per lb... 4@5
Beans green... 2@2½
Cabbage sack... 85
Celery per doz... 40@50
Chili peppers green lb... 2
Cucumbers per box... 10@20
Pickling... 50
Corn per box... 40
Cauliflower... 1.50
Carrots per doz... 30@40
Eggplant per lb... 3@4
Green onions doz bunches... 10@30
Lettuce per crate... 40@75
Pie Pumpkins... 1½
Peas sugar per lb... 5@6
Okra per lb... 5@6
Rhubarb per box... 1.35@1.50
Radishes per doz... 15@20
Spinach per doz... 10@15
Summer squash crate... 25@35
Turnips doz bunches... 40
Tomatoes per box... 25@35
Water Cress per hundred... 35

Citrus Fruits.

Valencias... 2.25@4.50
Grapefruit seedless... 3.25
Grapefruit seedlings... 1.75@2.00
Lemons fancy... 3.75@4.50
Lemons choice... 2.00@2.50

Outside of citrus fruit there is but little interest in the fruit market. There is good supply of casaba melons, and prices have declined since last quotations. Apples do not seem to be in best request, but sales are fully up to quotations.

Fresh Fruits.

Apples Red Astrachans box... 1.00@1.25
Bellevue... 1.85

Gravenstein... 1.50
Alexandria... 1.00@1.50
Cooking... 50@1.00
Blackberries... 7@8
Cantaloupes crates... 1.25@1.75
Casaba per crate... 80@1.25
Figs black per lb... 4@5
Figs white... 5@7
Grapes Isabelas per box... 1.25
Black Hamburgs... 65@85
Rose Peru... 40@60
Muscats... 75@85
Tokay... 1.35
Huckleberries lb... 11
Logans... 12@15
Pears... 2.25
Peaches per box... 65@1.00
Frech prunes... 65@75
Hungarian prunes... 1.10
Pomegranates box... 1.00
Quinces... 90@1.00
Raspberries... 13@15
Strawberries... 3@5
Watermelons per lb... 1@1½

Dried Fruits.

The dried fruit market continues in a healthy tone, and all stock selling up to quotations.

Evap. apples fy per lb... 8½@9
Apricots... 17@19
Peaches... 9@12
Pears... 11½@12½
Nectarines... 11@12
Prunes... 3½@5½
Plums... 11½@12½

Beans, Dried

There is no change to speak of in the quotations of last week.

Limas per ctn... 4.50@5.50
Pink No. 1... 3.25@3.50
Lady Washington... 3.25
Small White... 3.25@3.40
Black eyes... 4.50@4.75
Garvanzas... 5.25@5.75
Lentils... 12@12½

Honey

The prices we give are those at which the jobber sells to the grocer in small lots. The producer should take from this one cent a pound commission and freight to Los Angeles, and there will remain the net returns to him.

Extracted white... 6@7½
Light Amber... 5@6
Comb water white 1-lb. fms... 12@16
Light Amber... 11@13

Nuts.

The Walnut Association met in Los Angeles last Saturday and fixed upon the price of 15 cents for No. 1 soft shells. With No. 2's at 12 cents.

Almonds per lb... 17@18
Peanuts Virginia... 8½@9
Peanuts California... 6@7½
Walnuts No. 1 S S... 15
No. 2... 12

Hay.

Barley No. 1... 14.00@15.00
Barley No. 2... 12.00@13.00
Alfalfa northern per ton... 14.00
Alfalfa new local... 15.00
Plain oat No. 1 new... 12.00@15.00
Wheat No. 1... 15

Grain.

Barley has taken the upward grade till it now stands at \$1.45. Corn is also much higher.

Wheat new per cwt... 1.70
Barley... 1.45
Corn Eastern sacked... 1.70

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn... 1.75
Shorts... 1.45
Bran... 1.30
Egyptian corn... 1.65
Oil cake meal... 2.50
Feed meal... 1.80
Rolled barley... 1.50
Rolled barley per ton... 30.00
Kaffir Corn... 1.65

Pomona Times appeals for judgment to be shown in estimating profits in orange growing because of the fact of last year being exceedingly profitable to the orange grower, is no indication that these profits will continue over a period of many years. The claim made is that these profits will affect the tariff arguments before Congress.

San Bernardino county fruit exchange reports the value of its citrus output for the past year as nearly \$1,000,000. This netted to the grower, above freight and shipping expenses, \$647,000 or an average of \$1.80 per box.

Under the impetus given to irrigation by controlling the Colorado river, the irrigable lands of Imperial valley are increasing.

San Francisco Markets

SAN FRANCISCO, Sept. 24, 1907.

Butter.

Butter is in very heavy supply and is quoted lower than last week with market unsteady.

California extras per lb... 22
California firsts... 24
California seconds... 24
California thirds... 24
Eastern extras... 22
Storage Cal ex... 22

Cheese.

California Young American fy... 17
California flats fy... 15
Eastern fy... 15
Oregon fancy... 15

Eggs and Poultry.

Eggs have continued the upward trend and are now quoted at 41 cent for strictly fresh extras.

Fresh ranch eggs... 41
Eggs firsts per doz... 41
Eggs seconds per doz... 41
Eggs thirds... 41
Eastern selected... 41
Eastern firsts... 41

Hens per doz... 4.50@5
Hens large... 6.00@6
Young roosters... 6.00@7
Old roosters... 4.00@5
Fryers per doz... 4.00@4
Broilers per doz... 3.50@4
Geese per pair... 1.75@2
Ducks young... 3.50@4
Turkeys per lb... 20¢
Pigeons... 15

Live Stock.

Steers No. 1... 8@8
Do second quality... 7@7
No. 1 cows and heifers... 6@6
Hogs 80 to 200 lbs... 7
Hogs 200 to 300 lbs... 7
Calves per lb... 4½¢
Lambs, yearlings... 6@6
Wethers, No. 1... 5
Ewes, No. 1... 5

Potatoes

Sweet potatoes are in oversupply and a large quantity in crates and sacks remain. Their quality is medium. White potatoes are hauled in large quantities from the wharves, but the demand is none too strong.

River Whites... 1.10 @1.15
Salinas... 1.50@1.65
Early Rose... 1.00@1.12
Sweets... 1¢@2¢

Vegetables.

Supplies of vegetables were slow to arrive and small in quantity yesterday. A general cleanup on Saturday in the market firm and yesterday's small receipts enabled dealers to hold what they had in hand at ruling figure. Monday is always noted for its small consignments and moderate demand and yesterday was no exception. Today supplies will pour in and doubtless weaken the market again.

Onions are in heavy supply, with poor inquiry and a weakened market. Cucumbers are in moderately heavy receipt, but the call for them has slackened materially. Green peppers are accumulating again and squash is active.

Asparagus... 50¢
Cucumbers per box... 50¢
Corn per sack... 1.50@1.60
Chili peppers per box... 3.50
Bell peppers per box... 3.50
Egg plant per box... 25¢
Green peas per lb... 50¢
Squash per box... 40¢
Tomatoes California... 50¢
String beans... 1.20
Wax beans... 1.40
Garlic... 1.50
Marrowfat squash per ton... 10.00@15.00
Hubbard squash per ton... 10.00@15.00

Onions.

Onions Br Australia per ctn... 3.25

Citrus Fruits.

Valencias... 3.00@4.50
Grapefruit seedless... 3.50@4.50
Lemons... 4.00@4.50
Limes... 6.00@6.50

Fresh Fruits.

The usual dullness attending Monday prevailed and even considerable Saturday's carry-over remains for today. Dealers seemed determined to recover the firm tone lost in Saturday's weak market, but buyers were slow to make offers at anything like ruling figures. Nutmeg melons were small, some green and some overripe. Buyers refused to take them, except in very small way. Grapes were in moderate supply and dealers occasionally obtained better figures than Saturday. Varieties of pears are confined chiefly to the Oregon kind at these are mostly green. Plums are in little supply. Rhubarb is coming slowly again, but meets with no inquiry.

Apples Gravenstein... 1.50@1.75
Apples small stock... 40¢
Crab apples... 65¢
Blackberries per chest... 4.00@4.50
Figs one layer... 40¢
Figs two layers... 85¢
Grapes per crate... 75¢
Melons per crate... 60¢

granates per box.. 75@1.25
s per box.. 50@1.00
hes per box.. 1.00@1.25
etts.. 75@2.00
berries per chest.. 7.00@10.00
berries per chest.. 6.00@10.00
melons per doz.. 1.00@2.25

Dried Fruits.

es (evap.).. 7½@8½
ots per lb new.. 17@19
white.. 3½@4½
es 4 sizes.. 4@5½
hes.. 10@13
s.. 5½@11

Beans, Dried.

s.. 5.00@5.25
.. 2.65@2.75
white.. 2.85@3.00
white.. 2.85@3.00
Washington.. 2.30@2.85
eyes.. 4.00@4.25
Kidneys.. 3.50@3.60
.. 3.20@3.00

Hops.

new future delivery per lb.. 7@9
old fancy.. 5@7½

Nuts.

uts new.. 16½@17½
uts California.. 6½@7½
uts.. 14@17

Honey

white comb.. 16@17
r.. 12@15
cted.. 7½
wax No 1 per lb.. 25@28

Hay.

fa local.. 11.00@13.00
oat.. 15.00@16.00
oat.. 10.00@14.00
at No. 1 new.. 18.00@19.00

Grain.

at No. 1.. 1.60@1.62½
y No 1.. 1.32½@1.37½
small yellow.. 1.65@1.67½
large yellow.. 1.50@1.55
white.. 1.45@1.55
red.. 1.65@1.90

Feed Stuff.

per ton.. 20.00@22.50
v per bale.. 50@90
cornmeal per ton.. 33.50@35.00
red corn per ton.. 34.00@36.00
ake meal per ton.. 38.50@40.00
anut cake, per ton.. 25.00@26.00
ngs.. 27.50@30.00

Citrus Market

LOS ANGELES, Sept. 24, 1907.
ne indifferent sales of Valencias
being made in auctions owing to
tion of fruit. Otherwise, big
prevail.

ons are giltedged property now
commanding ready sale at long
s.

ments of Citrus Fruit.

pmments to date 27,201 cars, of
h 3202 were lemons. Same date
year 25,484, of which 3541 were
ns.

W YORK, Sept. 24.—The market
ry strong and higher. The weath-
s clear and favorable. Two Va-
as sold.

LENCIAS—

ito O G Cash Assn.. \$4.50
tica.. 2.75
ter ch A C G Azusa.. 5.40
Shield xch A C G Azusa.. 4.20
n Crown st A C G Azusa.. 3.15
to ½.. 2.00

PEFRUIT—

to.. \$3.00; ½.. \$2.35

NCINNATI, (Sept. 23, delayed
—The market is steady and the
her is cool. There are no cars on

MONS—

na Beauty xch Q C Ft Ex Cor 3.85
e ch Q C Ft Ex Corona.. 2.50

STON, Sept. 24.—The market
g on Valencias and the weather
oudy. One car sold and seven on

LENCIAS—

xfy A C G Glendora.. 4.65
ter xch A C G Glendora.. 3.85
ter st A C G Glendora.. 3.85

EVELAND, Sept. 20.—The market
bor on account of the quality of
fruit. The weather is warm. One
sold and there are none on track.

LENCIAS—

ajo st A H Ft Ex Perenda.. \$2.90

a Tree ch A H Ft Ex Perenda 3.35

ish Girl st A H Ft Ex Per.. 3.15

MONS—

aller st A H Ft Ex Perenda.. 2.45

STON, Sept. 23.—The market is
g on Valencias. It is raining.
cars sold and eight on track.

VALENCIAS—

Planet ch S S Ft Ex Orange.. 5.05

LEMONS—

Whittier xc S T Ft Ex Whittier.. 2.30
Pico st S T Ft Ex Whittier.. 1.55

PHILADELPHIA, Sept. 23.—The
market is very strong. It is raining.

VALENCIAS—

Purity fy Tustin Pack Co Tustin 5.45
Old Oak ch Tustin Pack Co Tustin 4.75
Lucky st Tustin Pack Co Tustin 4.50

PITTSBURG, Sept. 23.—The market
is strong owing to light arrivals.
Weather is favorable.

VALENCIAS—

Conqueror Independent Ft Co.. 4.35

NEW YORK, Sept. 23.—The market
is very strong and higher. Four cars
of Valencias and one of grapefruit sold
today. It is raining.

VALENCIAS—

Bouquet xfy Cal Cit U.. 5.15
Victory xc Cal Cit U.. 3.50
El Toro st Cal Cit U.. 3.65
Signet xfy Orange Gr Cash As.. 5.50
Trade Mark st Orange Gr Cash As 3.85
Colonel xc Orange Gr Cash As.. 4.80
Stag xfy ACG Ft Ex.. 5.65
Pointer xc ACG Ft Ex.. 3.60
Hunter st ACG Ft Ex.. 2.70
Old Mission fy Chapman's Fulln.. 6.80
Old Mission ch Chapman's Fulln.. 6.40
Golden Eagle st Chapman's Fulln 4.95

Remember that the horse needs a
bath as frequently as its master. The
last two years the writer was on the
farm, he bathed the sweat from the
horses every evening after they had
cooled off. He never had more
healthy animals. It only takes a
few minutes, but it pays large profits.

The horse gets the most good from
its feed by eating slowly. If the ani-
mal is a glutton and cannot be made
to eat slowly in any other way, place
several links of a log chain in
the bottom of the feed trough and
pour the oats in over this. The ani-
mal will have to spend a great deal
of time getting the oats from around
the links.

Tustin claims to have over fourteen
thousand acres planted to beans.

EFFECT OF MOISTURE ON WOOD.

The effect of water in softening or-
ganic tissue, as in wetting a piece of
paper or a sponge, is well known, and
so is the stiffening effect of drying.
The same law applies to wood. By
different methods of seasoning two
pieces of the same stick may be given
very different degrees of strength.

Wood in its green state contains
moisture in the pores of the cells,
like honey in a comb, and also in the
substance of the cell walls. As sea-
soning begins, the moisture in the
pores is first evaporated. This less-
ens the weight of the wood, but does
not affect its strength. It is not until
the moisture in the substance of the
cell walls is drawn upon that the
strength of the wood begins to in-
crease. Scientifically, this point is
known as the "fiber-saturation
point." From this condition to that
of absolute dryness the gain in the
strength of wood is somewhat re-
markable. In the case of spruce the
strength is multiplied four times; in-
deed, spruce in small sizes, thorough-
ly dried in an oven, is as strong,
weight for weight, as steel. Even
after the re-absorption of moisture,
when the wood is again exposed to
the air the strength of the stick is
still from 50 to 150 per cent greater
than when it was green. When, in
drying, the fiber-saturation point is
passed, the strength of the wood in-
creases as drying progresses in ac-
cordance with a definite law, and this
law can be used to calculate from the
strength of a stick at one degree of
moisture what its strength will be at
any other degree.

Manufacturers, engineers and build-
ers need to know not only the
strength but weakness of the mater-
ials they use, and for this reason
they are quite as much interested in
knowing how timbers are affected by
moisture as they are in knowing how
they are weakened by knots, checks,
cross-grain and other defects. It is

obvious that wheretimbers are cer-
tain to be weakened by excessive
moisture they will have to be used in
larger sizes, for safety. So far, en-
gineers of timber tests, while showing
that small pieces gained greatly in
strength, do not advise counting on
the same results in the seasoning of
large timbers, owing to the fact that
the large timbers usually found in the
market have defects which are sure
to counterbalance the gain from sea-
soning.

The Forest Service has just issued
a publication entitled "The Strength
of Wood as Influenced by Moisture,"
in which are shown the strength of
representative woods in all the de-
grees of moisture from the green
state to absolute dryness and the ef-
fects of resoaking. This publication
will be sent free upon application to
the Forest Service, U. S. Department
of Agriculture, Washington, D. C.

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can say that I consider it one of the
best agricultural papers I have ever
read, and I herewith enclose \$1. for
its continuance. H. D. WILLIAMS,
Woodbridge.

O. K.

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Imperial valley cantaloupe grow-
ers are signing next season's con-
tracts. One hundred and ninty-five
acres are already reported as signed
up with a possible total of four hun-
dred acres before planting time.

F. P. Hosp, Santa Fé landscape
gardner who has been in Europe
gathering information as to eucalyp-
tus trees, is again at home.

The Shape of a Plow

from the share-point back a third of the way across the mould board determines whether it pulls heavy or light. Three-fourths of the friction comes on this part, and this part of a John Deere plow bottom is shaped to split the ground like a thin wedge splits a stick of wood—that's one reason why John Deere plows are easy on your horses and economical for you—why the John Deere is the lightest draft plow in the world—and why there are more of them in use than any other three makes combined. We sell the John Deere plows, and carry a large stock of farm machinery. We want your business.

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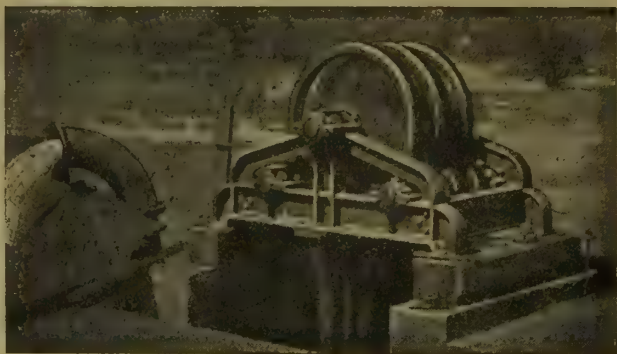
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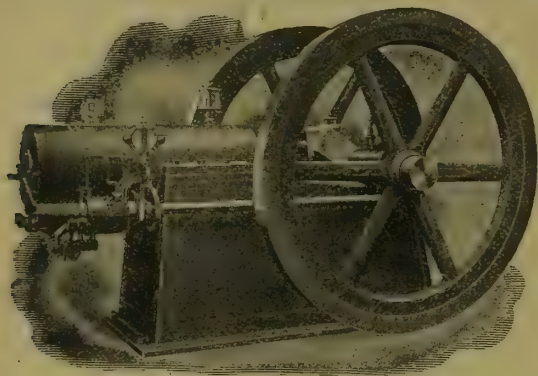


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ENGINE

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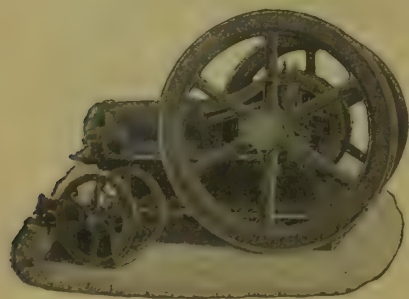
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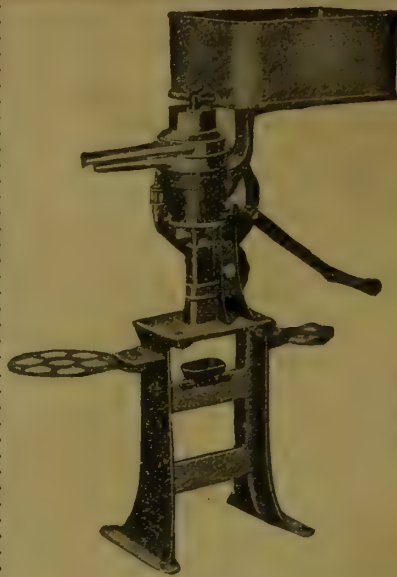
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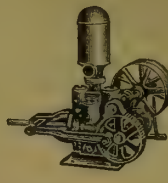
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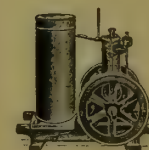
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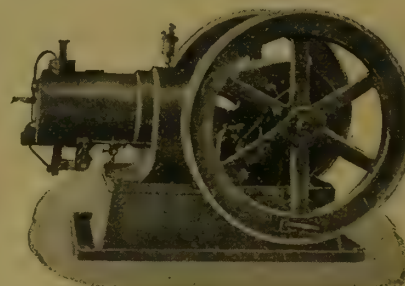
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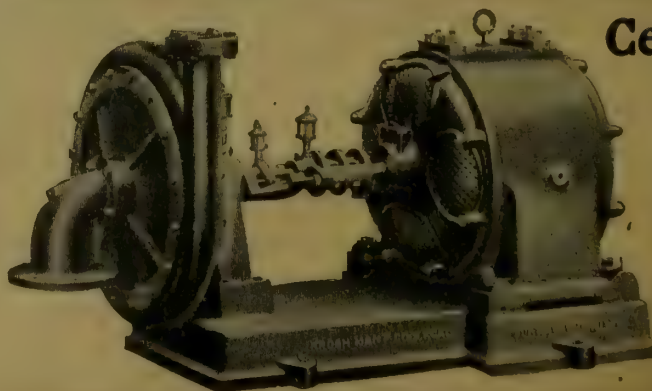


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Los Angeles

October 3, 1907

San Francisco

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FROM the annual report of the State Board of Trade for 1906, issued last month, something of California's vast earning power is made apparent. Statistics in this exceedingly valuable report as they pertain to our industries, give some idea of the possibilities of the State from an agricultural standpoint.

Probably the one industry which has given the State more prominence commercially than any other, is the citrus industry and decidedly so, for the volume of its shipments in tons far exceeds that of any other commodity produced by the State. The report shows that in 1906 California shipped 381,901 tons, or 38,190 carloads of citrus fruits. Green deciduous fruits follow next with 108,924 tons, or 10,892 carloads. Dried deciduous fruits are a close second to green deciduous fruits with 108,441 tons, or 10,844 carloads.

The deductions made in citrus shipments as shown in the report doubtless come from taking 10 tons as a car load basis, instead of 13 required by the railroads, and also includes local shipments not reported by the railroads. But the total shipments of citrus fruits as tabulated by the California Fruit Exchange for 1906 were 578 car loads from Southern California, with an approximate of 100 cars from the north.

Of wine we sold 6191 carloads and raisins, 4070 carloads; brandy, 37 carloads and nuts, 499 carloads. Canned fruits, 6461 carloads. Green vegetables, 8259 carloads and canned vegetables, 722 carloads.

We consume annually of prunes in the United States 100,000,000 pounds, or an average of 1.15 pounds to every man, woman and child in the country.

Of butter we produced in 1906, 44,044,578 pounds. The gain of 5,213,138 pounds in 1905 over 1904 and of 2,083,531 pounds in 1906 over 1905, places California well to the front as a dairy State. We

produce six times as much butter as is produced in Oregon. With but few exceptions, all the counties show increased production.

The State's record in cheese production is not so good as in butter, being from 6,399,625 pounds in 1897, to 6,418,480 pounds in 1906, with several smaller yearly productions during the nine years.

The gain made in farm animals both in numbers and value has been exceedingly gratifying. This gain shows an increase of \$11,000,000 more than in 1905 and \$19,000,000 more than in 1904. In wool the State has shown relative growth since 1902, when we produced 21,000,000. Since that we have increased to 24,000,000 pounds.

Farm crops generally show remarkable gain annually, according to the figures given California's wheat crop which was 157,045 tons less in 1905 than in 1904, but in 1906 the crop is about the same as in 1904.

The hay crop of California is one of the State's most valuable products and an indispensable adjunct to other industries. It consists of grass hay, grain hay and alfalfa.

The 1905 crop was 2,998,873 tons of grass and grain hay, and 1,808,441 tons of alfalfa, the total value being \$31,795,515.

We produced of hops in 1906, 20,000,000 pounds, an enormous gain in 1906 over 1905, of 6,863,000 pounds. Of lumber we produced and sold 544,013,798 feet in 1906. In minerals we mined in 1905, \$43,069,227, making a steady gain each year (except in 1904) for ten consecutive years. The gold produced is nearly \$20,000,000 a year and the petroleum crop is worth nearly \$10,000,000 a year, and is increasing in value.

These several items when segregated and computed bring the earning capacity of California up to \$1,000,000 a day. With such capability and with constantly expanding conditions, we may look the future in the face with a feeling of confidence and reliance.



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We are in a position to give you the best possible service in this line, and have a stock that enables us to fully carry out the most elaborate ideas in any interior decorating. We will make you sketches and plan the entire furnishing of your home from the finishing of the walls to the hanging of the curtains, drapes, etc., following out any desired color scheme or making it in keeping with any desired period.

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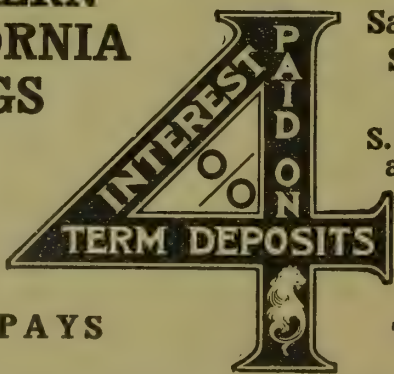
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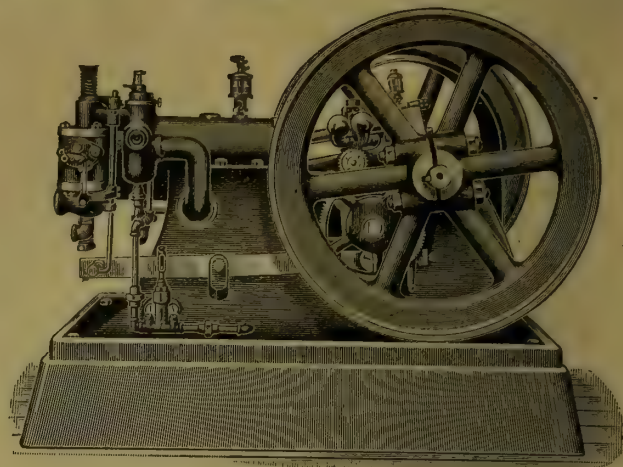
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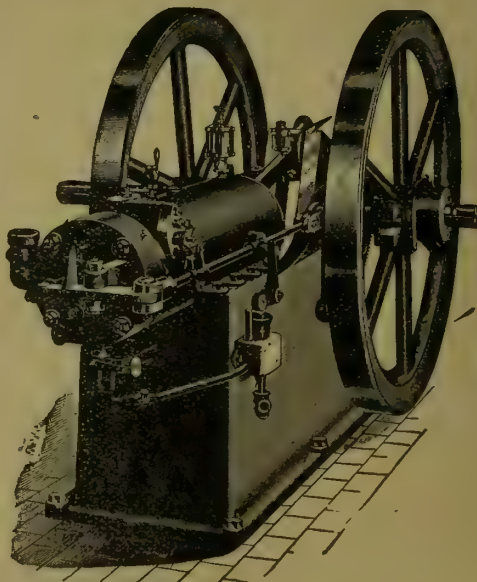
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California Cultivator

Vol. XXIX—No 13

Los Angeles, California, Thursday, October 3, 1907

Subscription \$1 a Year

The Mediterranean Fruit Fly

The Pest Sometimes Called Australian Fruit Fly, the Most Destructive Which the Fruit Grower Has Ever Faced and Which He Is Almost Helpless in Combatting

MAY California never experience the fruit fly. May her present experience with the white fly be such that public interest may be aroused until such vigilance shall prevail that no importation of that pest may be made. It would probably be the death of our greatest industry.

The Department of Agriculture of Victoria in its Journal publishes some facts regarding this pest which we quote in order to enable our growers to grasp the situation which would face should the pest gain entrance.

This terrible scourge of the fruitgrower is becoming but too familiar in Victoria, the larvae having been found in peaches, pears, quinces, apricots, plums, nectarines, guavas, oranges, lemons, apples, citrons, loquats, mangoes, pumpkins, bananas, tomatoes, pineapples, and persimmons; so that it will easily be seen that hardly any fruit can be said to be exempt from its attacks, and all of the fruitgrowers' enemies the fruit fly is undoubtedly the worst.

As this article is written especially for the grower, technical terms and descriptions are avoided where at all possible, so that the plate drawn from the original will be more easily understood. Unfortunately for Victoria, we are now having a very practical experience of this pest. Numerous cases have occurred, so far most of them in private gardens in the northern districts of our State. The danger has, we hope, been grappled with, and the pest, at least partially, stamped out by the adoption of drastic measures.

One great danger lies in the fact that many well-meaning persons suppose, or profess to suppose, that fruit flies will neither live nor thrive in Victoria. This is a most mischievous, as well as dangerous theory, as the writer knows from personal experience that in Victoria the larvae and the flies will live for weeks exposed to the sun by day and night, during both summer and winter and, as showing the vitality of the larvae, some have been kept by Mr. Fuller, Government Entomologist of Natal, for over three weeks in a freezing chamber, and at the expiration of this time, the perfect insects have been reared. It can be hoped that none but the most careful will attempt to rear these flies artificially, for should this be obtained a footing, which is extremely probable, the fruitgrower will have to pack up and be on his way, at present, no known remedy of nature may provide, in the shape of some parasite, a means by which the fly may be kept in check, if not stamped out altogether!

In writing of the above insect, Mr. Froggatt, Government Entomologist of New South Wales, in a paper, with Mr. Tryon, of Queensland, has had considerable opportunities of watching fruit flies in the orchards and elsewhere, remarks that this fly is not a modern importation, as it was not until 1886 that it was discovered in orchards near Perth in Western Australia, and shortly after this Mr. Froggatt found them flying about in the breeding jars from peaches supposed to be infected with the Queensland Fruit Fly (*Dacus tryoni*) which had been obtained at the Sidney Fruit Markets. Mr. Froggatt further remarks in his valuable treatise Notes on Fruit Maggot Fly, that although previously unknown in the Colonies it had a well-known record in Europe as far back as 1826, when it was described by Wiedmann as an orange pest, under the name of *Citripedra cap-*

itata; and a few years after by Macleay, who published a large colored plate of the perfect insect. In this paper he, Mr. Macleay, stated that fully one-third of the oranges shipped to London from the Azores were rendered unfit for use before reaching their destination through the presence of this maggot when they were packed.

"Early in 1890, an article appeared in a publication known as *Insect Life* where the fly was described and figured as a peach pest in the Bermudas. It was said to attack green and half-ripe peaches and mandarins most, and one correspondent reported that the larger oranges were not attacked.

"In 1892 J. H. Cook gave an account of the Orange Fruit Fly in Malta. He stated that the

known to us in Victoria as the West Australian Fruit Fly: "The eggs are laid in the fruit by the female fly, and the larvae are soon hatched from them and commence feeding. When they are full grown the maggots leave the fruit and enter the soil to pupate, that is to change into the last stage prior to their emergence from the soil as perfect insects, and great numbers are carried to the ground by the falling fruit. After having rested in the soil as pupae for about twelve days the flies hatch and make their way to the surface and continue their destructive work."

The following is an account of some experiments, dealing with the Mediterranean fly, which were carried out by the Assistant Entomologist (Mr. C. French, jun.) and myself during 1896. The results of similar experiments made by Inspector Farrell at my request are also given.

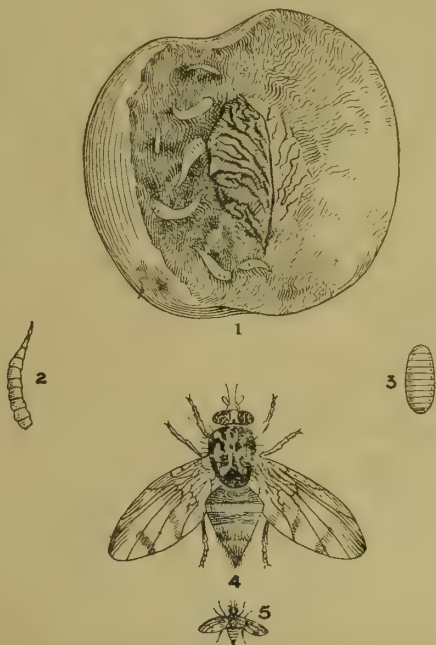
The larvae of this fly were found in bananas imported from Queensland on the 14th August, and on being placed in the breeding jars pupated on the 20th August; the perfect insects emerged on the 4th October and lived for several weeks, water, with a little sugar added, being the food placed at their disposal. Larvae were detected in oranges from Maryborough (Queensland) on the 19th September, and pupated on the 24th September; the perfect insects commenced to emerge on the 26th October, and continued emerging till the 30th. On the 2nd November several cases of Seville oranges were sent from Sydney. These were badly infested with larvae of the Mediterranean fruit fly; on being placed in the breeding jars they pupated on the 6th November, and the perfect insects were hatched out on the third of December. Not less than 60 flies were hatched from two Seville oranges and the perfect flies lived ten days without food. The Mediterranean fly has also been reared from tomatoes sent from Queensland. The larvae of the fly curl up and by a muscular movement jump fully one foot. I placed various fruits with these flies, but could not get them to deposit eggs in them.

These flies are very active at night if exposed to light, and possibly might be attracted by placing a lamp among the trees, the lamps to be placed in kerosene.

Inspector Farrell reports the results of his investigations in connection with the Mediterranean fruit fly and its habits as follows: "I placed fully-grown larvae in a jar on the 12th February. Flies hatched out on the 25th, i.e., thirteen days later. These were placed in a tin box containing some earth and covered over with a mosquito curtain; sliced tomatoes and peaches were put in with them, and the box was left out in the open air. Flies fed on the tomatoes, but punctured peaches and deposited eggs in them. The flies died on the 21st March, twenty-five days old. Other flies which were hatched out on the same day but got no food, died on the 1st March, four days old. I reared from the peaches a number of larvae which went into the chrysalis state on the 15th March, and I expect them out on the 30th or 31st March,

On the 15th March I saw a fly on a peach. The fly must have just laid. I secured the peach and kept it under observation. At first there was no puncture visible, but afterwards one became pronounced. I reared five larvae from this peach;

Concluded on Page 324



The Mediterranean Fruit Fly

1. The maggot in the fruit. 2. The appearance of the larva.
3. The pupa case of the fly. 4. The Mediterranean fruit fly, enlarged.
5. The Mediterranean fruit fly, natural size.

whole of the oranges had been destroyed during the last two years by this maggot, and that a Commission had been appointed by the Governor to report on the best means of checking this pest. In the following year a pamphlet was published in the Mediterranean Naturalist by Professor N. Tagliferro at the expense of the Agricultural Society of Malta to give the orange growers a popular account of the fly. He advised them to "smear a few oranges on each tree with honey, so that adult fly would, in gathering around them, be caught and destroyed."

In Malta, as has already been stated, we are informed that the Mediterranean fly does great damage to the orange crops, and its attacks appear to be confined to oranges only.

Some trees are netted to protect the fruit from these flies. But unless fruit is much more valuable than it is at present in New South Wales, it would not pay to treat the trees in this manner, as he says it costs about 3s. per tree to protect them by this process from the flies.

Mr. Fuller, formerly an Australian, but now Government Entomologist of Natal, gives the following account of the habits of this insect, as observed by him, and which was for some time

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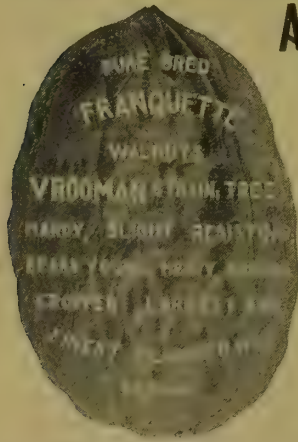
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ADAPTION OF VARIETIES TO SOILS.

THE Yellow Newton Pippin apple, which is well known to most apple growers well illustrates the adaptation of varieties to soil. This variety originated on Long Island and was grown in a few restricted localities in the vicinity of New York, and in a small way at Albemarle in Virginia. In the first year of Queen Victoria's reign, Her Majesty was presented with a few barrels of this variety, which were grown at Albemarle. So pleased was she with the apples that she had the tax removed from this one variety. As might be expected, this notice by the Queen brought the variety into prominence, and since that time it has been much in demand for the export trade. This demand led to increased plantings, when it was soon found that this variety succeeded in only a few restricted localities. Recently it has been determined that this varietal peculiarity is entirely due to soil. Wherever soil is found which corresponds in its physical make-up with those where the variety has succeeded, and the climatic conditions are favorable, the Yellow Newtown will succeed.

It is simply an extreme case of the adaptation of a variety to a peculiar soil. No doubt some other factors, which are not now understood, enter into the adaptation, but the general principle holds good.

Likewise Potatoes.

We find that potatoes will only succeed well in soils of a certain character. Potato soil must not be too heavy and should contain a certain per cent of sand or small gravel; and what is equally important, such soil must be well under-drained. It will be found, as a rule, that in localities where potatoes are successfully grown, drainage is provided for by a bed of gravel which underlies the surface at varying depths.

It has been found at the Colorado Agricultural College that the cause of this adaptation of the potato plant to soils of the same general character is due to the fact that certain plant diseases do not find in them conditions for growth.

As to Raspberries.

The Marlboro red raspberry is another striking example. At its home on the Hudson river it makes a weak, spindling growth, and seems to be gradually deteriorating. No variety has made the growers of that region more money, but it is now being abandoned for more vigorous kinds. In the famous raspberry district of Loveland, Colo., it is surprising to find that the Marlboro is practically the only variety grown for market, and that the conditions there are such that the plants are extremely vigorous, often attaining a height of ten feet. An examination of the soils and the behavior of plants points pretty strongly to the conclusion that the Marlboro raspberry is nearly as particular in regard to soils as the potato. It certainly succeeds best in soil which is similar to potato soil, and evidently for similar reasons. Most growers are familiar with "raspberry yellows," where the foliage on fruiting canes becomes curled and gradually takes on a yellow color. Not infrequently the fruit on such canes shrivels before it ripens. Upon

examination, the outer bark of the main root of such plants will be found to be much discolored, and often the stem will be constricted just below the surface of the ground. There is little doubt that this is the work of fungi, as is the case with the potato, and consequently, in order to be successful with this crop, much attention should be given to the character of the soil.

The intending planter of fruit of any description will do well to study very thoroughly the plantations in his neighborhood which are located on similar sites and soils.—W. Pad-dock.

PRUNING TREES WHEN SETTING.

A writer in Farm Progress in giving information as to tree planting says: "As the visible manifestation of all plant growth of the ordinary kinds is above ground, it results that the common impression is that the most important part of the plant for its perpetuation is the part above ground. But in most cases this is not true.

"The fundamental cause of the growth, because it gathers the food supply, is the root system. The result of this is as a general rule that in a well-rooted tree or plant, though the entire tree itself is cut off at the ground, the life left in the roots will send up new growth.

"This being true, it is a good plan to trim the tops of young fruit trees pretty vigorously when transplanted, so that it will not make great demands on the root system, and also to trim the roots too. How much to prune the roots is a question that is not fully determined. The general practice with most orchard growers is to cut off all broken roots smooth and to head in the long straggling ones. And if there is a large number of fine roots it is advisable to thin them out. The roots to be trimmed, and the top to be trimmed moderately. The best practice is to cut off the top so as to cause the trees to head low.

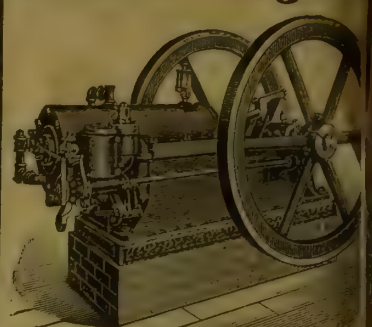
"There is a vast difference in the profit of handling fruit from orchards of low-headed trees and those that stand up very high. Some fruit growers undertake to keep all their trees so low that in gathering the fruit there will be no necessity for the use of ladders.

"I think the general impression among the inexperienced is that it is best to plant large trees, two and three years old. But such is not really the case. One year old trees are recommended by most fruit growers, because, having made a few branches, it is possible to prune so as to make a better permanent shape. If cut back to eighteen inches or two feet, the yearling tree will make its top all new. But older trees have made quite a number of branches already, and the permanent head cannot be made so low or so well shaped. The best results seem to come from well-grown yearling trees cut down to a mere stick."

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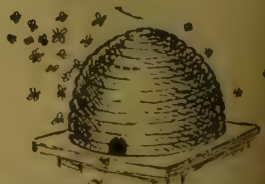
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TOKAY IS KING.

THE scepter of the fruit kingdom in California has passed through several hands in her history, and various fruits have come to the fore to claim it. The last aspirant is the Tokay grape, and from results obtained during the past five years, it is entitled to the honor. There has probably been more money taken from the Tokay grape vineyards of Northern and Central California during the past few years than from any other fruit lands in the State. Last year was counted the banner year, this season has surpassed it. The shipments have been heavier, prices better and profits larger than ever before known. The man who has a few acres of Tokays in the Tokay section is a fortunate individual, as things are going. One car load, shipped through the Producers' Fruit Co., returned \$2558. Lodi, which is the center of the Tokay section is one of the most prosperous towns in the State, and the people of that town recognizing their indebtedness to this fruit, recently held a Tokay Carnival, which all the surrounding country participated. A popular young lady has been chosen a Queen Tokay, and many of the State officers, including the Governor, took part in the proceedings. The Tokay, to give the best results in size, color and flavor, requires peculiar soil and climatic conditions, and these are furnished in its perfection in the rich alluvial lands of San Joaquin and Sacramento counties. The bunches are extraordinarily large, as are the individual berries, and the color a deep translucent, which makes them especially attractive to the eye, and they are a favorite to the Eastern consumer on their own merits.

IRRIGATION AND CULTIVATION.

Thirty years ago there were two great questions before the fruit growers of the State, and these were, whether high or low pruning were better and whether it were not better to cultivate more and irrigate less. The former question has been definitely settled in favor of low pruning, and in Southern California where water is valuable, it has been covered that a little water will go a long way, provided it is properly conserved, and give much better results than where too much water is used. This is a truth which many farmers in the northern part of the State have yet to learn. Water is abundant there, and it is used in many cases with destructive wastefulness. Best results are obtained with a minimum allowance of water, provided that such water is not allowed to evaporate through capillary action or to be pumped out of the soil by a growth of weeds whose masses of roots are constantly robbing the soil of both moisture and fertility. Many farmers believe that it is much easier to irrigate than to cultivate, and they drown out their land, irrigate both trees and weeds at the same time, and the latter usually get the greater advantage from their irrigation.

ICE GROWING IN CALIFORNIA.

One of the most attractive exhibits at the late Irrigation Congress was made by Texas of rice in all stages of preparation. The rice was grown in the straw, threshed, hulled

and cleaned ready for market. Several varieties were shown, and the display attracted much attention and elicited many inquiries as to the methods of cultivation. Several attempts have been made by our university people to grow rice in California, but with no practical results, but this season Mr. Hinshaw of the California Land Co. has some thirty-five acres on the Sacramento river, in Glenn county, which is now nearly ready to harvest. So far the experiment is a pronounced success, and if, after harvest, it fulfills its present promises, rice growing will become an industry with the farmers of the Sacramento valley, who are watching the experiment keenly.

HORTICULTURISTS vs. BIRDS.

The writer does not believe Audubon ever ran a fruit ranch or tried to raise sunflowers, or, for that matter, anything which under any conceivable pretext a bird could find time to destroy or could make available for any purpose. That is in California, at least.

No one can be more in sympathy with anything that wears feathers, from a humming bird to an ostrich, than the writer, yet when he sees his fine strawberry patch, his sunflowers and his peach and fig trees stripped of every desirable bit of fruit, it causes a feeling akin to retaliation to rise in his bosom.

Seriously, there are several varieties of the feathered denizens of our fields that are protected by law that the writer questions, being exactly the agriculturists' friends. The plain attired, but sweet-voiced mocking bird between songs can find time for the consumption of more of the choicest production of the agriculturist's fruit orchard or berry patch than is hardly conceivable from their small dimensions each mocking bird is good for a 10-pound box of cherries, a crate of strawberries and a liberal number of figs and peaches thrown in during the season; if there is anything else in sight worthy of his attention he is Johnnie on the spot.

The diminutive linnet and a flock of about one or two hundred black-birds can accomplish some thing in the way of destruction.

In the writer's opinion this question of how to stay the ravages to our crops and fruit gardens by birds is becoming a serious one.

Aside from his own troubles, numerous complaints have been voiced in the hearing of the writer lately hardly complimentary to the societies protecting these vicious little thieves so perfectly. The scarcity of bugs and insects at the fruiting season unquestionably favors their destructive tendencies directed so assiduously against the profits of the agriculturist.

To those who suffer most it is hard to believe that their usefulness is in excess of their destructive ability. The wholesale and indiscriminate destruction of birds as game, or as mere sport in no sense would be commendable, but in the protection of crops under certain strenuous conditions, in the writer's opinion, might be justifiable. Certainly protective measures along some line would be a comfort and profit to a large number of long suffering producers.—J. W. Whiting.

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SWINE.

THE naturally clean habits of the pig may be observed in the razor backs of the extreme South. These animals run wild in the pine woods, their only shelter is the trees. I have seen their lairs in the soft, clean sand among the sweet smelling pine needles. When their carcasses are brought in by the hunters they are not mire-covered like the domestic hogs. The farmer is the sinner against cleanliness in the piggery. He keeps hogs of all ages, year after year, on the same ground, until they become infested with vermin. Fleas and lice find the climate good in California and multiply exceedingly fast. The irritation of the skin produced by these pests sends the poor unhappy pigs rolling in the mire.

Vermin.

Lice and fleas, small as they are, make up in numbers, and are the cause of weakness in young pigs that invites other diseases to make its inroads upon the weakened system. It is extravagant to feed a lot of boarders of this description, instead of healthy, robust pigs. The small pigs can be cleansed in a common tub filling it with water adding creolin to make a two-per cent solution. Have two men do the work and go all over the pig carefully with soft brushes or cloths. The sow is stood in a corner of the pen and scrubbed with the creolin water, using a broom. The spray can be used, but it takes longer and does not remove the dirt under which the vermin seek shelter. All the large animals can be treated the same as the sow, except his majesty the boar; he should receive a heavy spraying as he may turn vicious under the broom.

Tanks.

If there are several hundred head it pays to build a dipping tank. These tanks are made of galvanized iron and have a raised wooden platform at each end. The entrance board to the tank is an inclined plank with cleats that can be removed after the hog is in the water. A small chute is built at one end to send the hogs into the water. When washed the board is placed at the other end and the hog gladly walks out himself. As a hog drowns easily, the water should only be deep enough for him to stand in, not to swim. The backs of the hogs are well scrubbed by the attendants with brooms. The hogs standing for five or more minutes in the warm water will soak off the vermin on the under part of the body completely.

Wallow.

Where hogs are very wild prepare a wallow for them. Cut a ditch and

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let the water fill in a spot that been scraped out to hold water. Before scraping it out build a fence around it. Turn in the and get out the big spray pump spray them all over with the creolin or with a distillate emulsion. A twenty-four hours let the hogs and repeat this again in a week time. Burn all bedding and refuse where the hogs sleep and treat the wallowing spots with the same compound.

Digestion.

The digestion in the stomach and intestines of swine is more near like that of man than any other animal. The pepsin used for indigestion is obtained largely from the stomach of the pig and is one of the valuable by-products that the packers pay the expenses of the packing house. Later it has been found that pork is not as healthy a food as people have believed. How could it when we find men of good education persisting in feeding dead horses and cows to pigs? Surely the law should interfere in this disgusting practice. Swine are not meat-eating natural and do not need this food. They eat it because it is simply easier to let them eat than to bury the horses and cows that die.

Fertilizers.

If on a large ranch there are a number of animals that are dying off it pays to have a simple way of boiling them up for fertilizer. After the alkali is off, cut the animal up and boil plenty of water until the meat drops from the bones; then grind the bones up and put them on the land at once with the next load of manure that goes out to the fields. The meat is cooked to shreds and can be mixed with sand or earth or muck and put on the land, as it is now made elsewhere.



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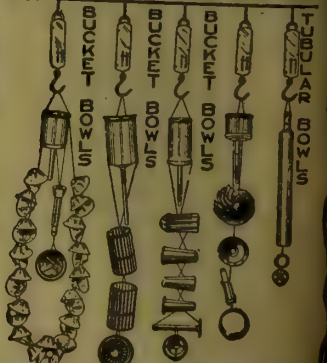
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ile by boiling from the bacteria of the common diseases of animals, it can be safely fed to the pigs and chickens. If middlings are added and boiled until well cooked and the whole mass poured into half barrels, it will cut out in cakes when cold. Do not add salt as the pigs receive in the house waste all the salt that is really good for them to eat. The many stories current about pork and dog sausages do not seem to me as serious, even if true, as the feeding of uncooked dead animals to hogs.

As long as sausages are used some one will cry out "dog." The boardinghouse keeper was sure that the sausages were dog meat, for he proved it. How? By giving his boarders sausage for every meal for a week when they all began to growl. Ricketts.

The alfalfa-raised pigs are not as much affected by ricketts as the offspring of sows that have lived on corn alone. Sometimes there will be a sow or two that seems to throw pigs with the weak hind legs and the wobbly gait. It is always lack of proper balance in the food and bad sanitation that causes this trouble. The slum children of the Eastern cities show the crooked legs and weak bones. Now if we put the sows in slum quarters and feed them slum foods, then we will have these weak boned pigs. The weak ones can be helped by giving them ground bone in the slop and by putting in a trough the following general tonic for them to take at will:

Tonic.

Common salt, four pounds; Black antimony, flowers of sulphur, sulphate of iron, one pound of each. Wood ashes, five pounds; charcoal, five pounds. We find it well to keep this mixture where the hogs of all ages can reach it. It acts as a digester and as an appetizer.

Feeds.

The ricketty pigs need a general widening of their diet. Now whatever you have been feeding change it to something like this: Middlings, four parts; oilmeal, one part; alfalfa hay all they can eat. Roots of any kind. Then add to the slop a tablespoonful of ground bone for each pig, and lime water to mix the feed, one gallon to every three of plain water. Then put a gallon of lime water in the troughs for each five gallons of clear water.

Ham and Bacon.

After all is said about the unhealthfulness of pork, we must not fear the cured product, as at every packing house the meat is carefully inspected for trichinae and for tuberculosis, the rejected meat going to make fertilizer. Ham and bacon will ever be a favorite food with the majority of people. Toast added makes it the wholesome breakfast for many people. The sweet odor of broiling ham that we all know, and can feel with the Jewish rabbi when he said: "Ham! ham! Thou almost persuadeth me to be a Christian."—M. E. Sherman.

The sheep men of the State are still working upon their organization and hope to have a working force that will soon be a factor in the prosperity of that industry.

Many new fruit evaporators have been built in Douglas county, Oregon, this year.

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In the Climax Pneumatic Ensilage Cutter both the cutting and elevating are done by a large wheel which carries the knives on one side and the elevating fans on the other. Both the cutting and elevating, therefore, are done at one operation, in a much simpler manner and with an expenditure of much less power than in those machines where the elevating device is a fan attachment added to the cutter.

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Pratts STOCK GUIDE

HINTS FOR STOCK RAISERS

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Remarkable Effects of Pratts Animal Regulator in a Cholera Epidemic

LE MARS, IA.—Mr. Henry Johns, of this town, who has raised hogs and other stock for the past 29 years, tells of a remarkable experience he had with Pratts Animal Regulator and Pratts Hog Cholera Cure. Some stockmen lost 50% and 75% of their stock in an epidemic here last Fall. Mr. Johns used Pratts preparations, and only one hog died.

"I shall always keep Pratts Animal Regulator around," Mr. Johns says. "I give it to hogs, cows, horses, sheep and other animals with splendid results. It has saved me a good deal of money."

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Ask for the double guarantee.

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from the share-point back a third of the way across the mould board determines whether it pulls heavy or light. Three-fourths of the friction comes on this part, and this part of a John Deere plow bottom is shaped to split the ground like a thin wedge splits a stick of wood—that's one reason why John Deere plows are easy on your horses and economical for you—why the John Deere is the lightest draft plow in the world—and why there are more of them in use than any other three makes combined. We sell the John Deere plows, and carry a large stock of farm machinery. We want your business.

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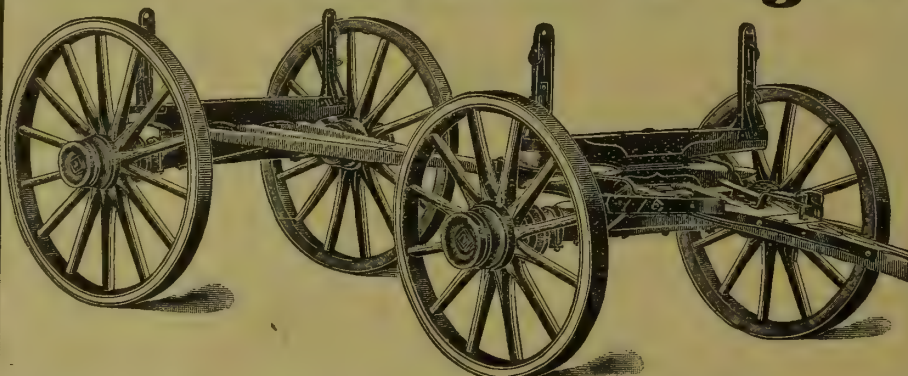
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DAIRY TYPES.

While there may be no virtue shades or color markings, there distinctive types of dairy shapes forms. No true dairyman fails distinguish the dairy form from beef form. The latter form indicates a five or six cent product, the form a thirty or forty cent product. In the finer work there is the finer physical equipment, a physiological consciousness of a destiny and an ability to do something beyond the ordinary. Along with this pronounced dairy form the careful dairyman will wish his cow to have the constitution ability to stand the strain of work. In a given amount of time there is a well defined limit to a possible animal product, that is, it impossible that the cow shall return in her milk more than she was able to find in her feed. Some cows will return more than others, and here lies the profitable superiority of a cow over another; this particular point of superiority, this largest profit is the item in business dairy that makes colors, shades and spots questions of fancy only—Coleman Rural.

OVER-FED HEIFERS.

If you expect your heifers to develop into good milkers, don't keep them fat.

This declaration is made in answer to a question, from a Contra Costa county young farmer, who wants to know, "if it is the thing to do to keep his heifers fat?" We feel certain our Mrs. Sherman would say "don't keep your heifers fat for if you do you will ruin them." She will also tell you that to properly feed your heifers is an important thing if you expect to develop them to do business in the dairy.

The matter of high dairy performance depends to a very large extent upon the bringing up of the heifer. She can be trained to convert her food into milk and butter fat. Whatever course she will take after the first calf is dropped will be dependent very largely upon her previous treatment. This does not mean that a heifer from a beef cow can be fed so as to make a good producer, but it does mean that a heifer from the very best dairy cow can be spoiled by keeping her fat and sleek before she calves the first time. This has been our experience at any rate.

The well known phenomenon of "not giving down" the milk is claimed to be the result of lack of nervous tone in the glands, brought about by some kind of excitement. The udder is not a container in which the milk is readily stored up at milking time, but an organ in which the greater part of the milk is elaborated while milking or suckling is in progress, by virtue of the agitation produced. Unless the cow is in perfect repose this secretion will not take place normally. The lesson to be derived from this is that the cow should be treated with the greatest gentleness, and otherwise kept free from excitement, specially during the time of milking or sucking.

The improved cow is the cow that continually improves in her milking qualities. She is not the only improved cow, for the producer of good beef stock and of the improved steer is an improved cow. It is not only necessary to have the improved dam but the sire should also be improved, if the improvement is made that is necessary. Keep up the improvement, lest there be a retrogression.

For practical cow milking machine see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles.

With the Citrus Growers

THE CITRANGE IN THE NORTH.

WE note in the Spokesman Review reference to experiments with the new fruit experiment—upon by the Department of Agriculture, and named "Citrang." Trees have been at Kenwick, Wash., and regarding them the dispatch states: "Much interest throughout the state has been awakened by James C. Crowell's experiments with frost-resistant oranges, or citrangs."

When seen today Mr. Crowell said: "The trees were received by me from the department early last winter. I followed the directions enclosed and fully heeled them in until this spring, when they were set out the same as any other orchard tree would be. Since then I have given them much attention, cultivating frequently and keeping the soil loose and moist. The trees have responded remarkably well to the care they have had, and this winter endured a temperature of 15 degrees below zero. I have little doubt but that the fruit can be grown successfully."

Three Varieties.

There are several varieties of citrangs now being experimented with by the department, and from reports received most of them will be suitable for this climate. The department has made but a very limited distribution of any variety, striving only to give its thorough trial and general opinion in cultivation if the variety proves valuable. The varieties sent for experimental purposes are the Rusk, Morton and Willits. The first of these trees to be issued for experimental purposes were the Rusk and Willits, of which varieties a few were issued in 1905. The Morton was issued a year later. Of course, in the department's experimental orchard, the trees have been under trial for a longer time. The Rusk has proved a very prolific variety, producing numerous well-formed fruits. A notable feature of this variety is the fact that the last seasons the fruits have been larger than those of preceding years, showing a tendency to produce larger fruit as the trees mature in age. The Willits has not proved so desirable. The fruit of this variety has a tendency to become very rough as the tree grows older. However, the pulp is said to be juicy, and can be used as an excellent substitute for the lemon or orange. The Morton trees last year produced a good crop of well-formed, well-appearing fruit, and will very likely prove to be one of the most valuable of the citrangs."

Mr. Crowell stated that the citrange should not be confounded with the orange. He says they are not oranges, but no more to be compared with oranges than lemons, but that they are only new fruits of the citrus group, and harder than the orange or lemon, and that they can be grown 300 to 400 miles north of the present orange belt. He also said that the chief use of the fruit was for culinary purposes and for making citrangeade, which they are highly recommended by the department.

The citrangs are propagated by grafting on two or three year old seedlings of the Trifoliate orange, which is a hardy stock, grown successfully anywhere in the southern part of the United States. The same careful care is recommended for the citrangs as is given the pear, apple and orange.

WHITE FLY AGAIN.

Last week we commented upon the statement that the life of an orange tree or grove after it was attacked by the White Fly was not to exceed three years. We disputed the assertions, knowing that at least one grove in this settlement had been infested by the White Fly for several years. Since then we have visited the grove and questioned the owner, Mr. M. S. Moremen, who is well known among the orange growers of this State. Mr. Moremen said that there had been White Fly in his grove since 1888, and that he had not lost a tree from that cause. Some years it has been so bad that he was obliged to wash much of his fruit on account of its being covered with the sooty mould caused by the presence of the fly. Mr. Moremen had quite lately finished spraying his trees and has but little trouble, that is, by means of this spraying he can keep it down so that they do not blacken his fruit. As his grove is surrounded by hammock on three sides which contain water oak trees, which breed the White Fly, it is impossible for him to get entirely clear of the pest.

We do not wish to be misunderstood by our California brethren; we do not blame them for doing all in their power to prevent the White Fly from spreading to other parts of the State. We should consider the money which it cost, well spent if it proves effectual. But we wish to assure them that its presence is not necessarily fatal to a tree or grove.—Florida Agriculturist.

TULARE COUNTY CITRUS FAIR.

Tulare county is maintaining its interest in its exhibition of citrus fruits. A great exhibit was made last year at Porterville which drew people from all over the State. This year's fair is to be at Lindsay and the date is Dec 3 to the 7th.

While it is a citrus fair and citrus fruits form the bulk of the exhibits, yet many displays of other fruits are made as well as there is of other soil products and even live stock.

It will be an interesting exhibit and well worth a trip to Lindsay to see.

Barnyard manure is the most valuable form of organic matter to add to soils, because it is rich as a fertilizer. For this reason the production and proper care of barnyard manure is just as necessary in farming as the growing of the staple crop. One of the great needs of some important agricultural sections is a great increase in livestock to produce manure and make possible the growing of a greater variety of crops, such as are required in an intelligent rotation.—George H. Failyer.

It is not idle to sound this warning, that unless the next generation in the Middle West put the fields under systematic crop rotation and better system of farm management, fertilizer problems such as are now confronting the East and South will have to be met before many decades.—W. M. Hays.

The Healdsburg Enterprise says that the range of wine grapes this season was extreme, from \$28 to a much lower figure. The average is claimed to be not far from \$22.

Newtowns are being quoted at Watsonville at \$1.40 to \$1.50.

Second Annual Tulare County Citrus Fair

Citrus Fruits, Deciduous Fruits, Dried and Preserved Fruits, Olives, Grapes, Nursery Stock, Plants, Flowers, Machinery, Arts, Needle and Other Fancy Work, and Minerals. Premiums will be awarded Exhibits

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Watsonville will make an apple exhibit at the Odd Fellow's grand encampment at Santa Barbara.

The Superlative Raspberry



Too much cannot be said in favor of the Superlative. It is a red, sweet berry three times as large as any other Raspberry, to my knowledge. It is a continuous cropper from May to November. I counted on one cane 472 berries of different sizes. Just think of a sweet raspberry as large as a Red Logan. Do you know what that means? It means for years to come heavy demand for fruit and plants. Every nurseryman will want a heavy supply. I received 5,000 plants from the introducer in Europe last Spring, and another 5,000 will arrive in November. I offer 2-year-old Plants now at 50c each, \$5.00 per 12, express paid. Going fast.

A. MITTING, 17 to 23 Kennan St., Santa Cruz, Cal.

The Vegetable Garden

THIS MONTH.

TRANSPLANT tomatoes, cabbage, cauliflower, etc., to field. Celery will need hilling. Sow cabbage, cauliflower, beets, onions, spinach, Swiss chard, peas, radish and turnips, lettuce, etc. This is really "Second Spring Time" of the year. You can plant nearly everything this month.

Peas planted now and given good care will give Christmas cheer. Plant the early variety.

Of course, it is only in frostless places where tomatoes are to be planted or sown now.

Rake up all dried vines or leaves, weeds, etc., and compost in compact pile or burn. This to get rid of many insects.

SELECTING SEED POTATOES.

That improvement of plants and animals may be accomplished by selection of the parent stock has become a generally accepted theory. Some species of the domestic animals have, after several centuries of selection, been bred to almost a perfect type.

Within the past few years a great work has been done along the line of improvement of plants by selection, especially corn and the other cereals. Probably less work has been done toward improving the potato than with any of our other great food plants. Yet enough has been accomplished to prove that no plant can be more quickly improved both in quality and yield than the potato.

It has been a common practice in the Eastern States, and to a certain extent in the West, among those who grow potatoes for family use, to plant only the small potatoes and culls that are left in the spring after the supply for the house has been picked out. This is, of course, the worst possible kind of selection, and always results in degeneration, or what is known as "running out" of the stock. Because of this, varieties of one generation are unknown in the next. On the other hand, there are localities in Colorado where the same variety of potatoes has been grown for the past twenty-five years, and is better and more productive now than when introduced.

Commercial growers have not made this mistake to so great an extent, but have generally made a practice of selecting a good type and a medium size of tuber from the bins during the winter for the following crop. In this way some good seed is planted, but for several reasons a large per cent is poor seed. A potato tuber is not a seed, but a part of the plant from which it came, consequently the characteristics of the parent plant are more sure to be reproduced in the new plant than in plants that are grown from seed that are the union of two parent plants. A little observation in the field when great variation in the different hills digging will show that there is of potatoes on a given area. One plant may have ten or twelve good sized, smooth, marketable potatoes. The next may have one good potato with three or four small or inferior potatoes, or possibly a hill may have but two medium sized potatoes of the same type as the first hill. Now, if the selection is made in the cellar, about as many of the seed potatoes

will come from poor hills as from good, and the result will be to produce more poor hills, and this continues from year to year tends to decrease the yield of potatoes.

The best way to select is to take only good potatoes from hills that produce nothing but good potatoes and a goodly number of them. This work may be done by digging by hand, but so many hills have to be discarded that it makes the work slow and expensive. If the potatoes cling to the vines, the selection can be made by following the digger. The system used at the Colorado Agricultural College Experiment Station is to plow out the rows with a common mold-board plow. This leaves potatoes on the vines with most the tubers exposed on the surface of the turned furrow. Not more than ten per cent of the hills will be suitable to select from the first year, these planted ought to produce much higher grade of potatoes from which to select the next year.—E. Bennett, Potato Specialist, Colorado Agricultural College.

BLACKBERRY CARE.

A dish of luscious blackberries fresh from the vines while the dew yet on them is a magnificent breakfast dish. They are enjoyable to the same degree as are the ones bought of the vegetable selling Chinaman, dried and hard at center, disappointing. Plenty of water with fertilizer and tillage makes luscious fruit.

With blackberries it is so simple to produce such fruit that it is a wonder there are not more in our gardens. A half dozen vines are sufficient for one family. In fact, the writer picked from one vine, the only one in our garden, many fine breakfast dishes this season. It had plenty of water and fertilizer. But it paid. Don't plant a long row—unless you expect to sell or give away—but have a very few fine vines.

Regarding culture, a writer in *Home Progress* says:

"The essential point in growing blackberries successfully is a moist soil, not one in which water will stand, but one rich enough in humus to hold sufficient moisture to carry the plant through the growing season. It is usually best to plant the blackberry bushes in the fall, setting the smaller growing kinds 4x7 feet apart and the larger varieties 6x6 feet. Thorough cultivation throughout the season will help in a material degree to perfect a good crop. The soil should be cultivated very shallow, so as not to disturb the roots. Breaking the roots starts a large number of suckers which have to be cut out and destroyed.

"Blackberries, like dewberries and raspberries, bear but one crop on the cane. That is, canes which spring up one year, bear the next. From three to six canes are sufficient to be kept in each hill. The superfluous ones should be thinned out as soon as they start from the ground. The old canes should be cut off soon after fruiting and burned. The new shoots should be pinched back at the height of two or three feet if the plants are to support themselves. If they are to be fastened to wires, the canes may be allowed to grow through the season and be cut back when tied to the wires in the winter or early spring."

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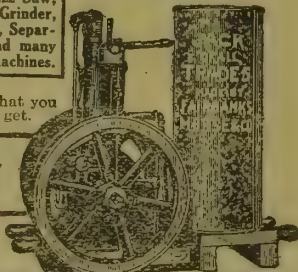
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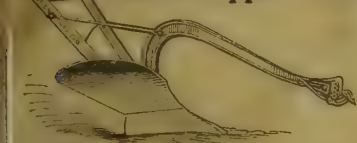
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THIS MONTH.

A MORE INTERESTING period is now beginning for the gardener. The beds have been spaded and fertilized and now the sowing of seed of annuals for next spring's blooming is in order. Plant sweet peas, pansies, mignonette, scarlet flax, stocks, scabiosa phlox, dianthus and other annuals. Such bulbs as now can be bought may also be planted. Most seedsmen have yet to receive their fall stock, but plans may be made and some varieties planted out and especially hyacinths, tulips, narcissus, amarillis and Dutch bulbs. On last of month plant gladiolus, roses and thoroughly water them, give lots of manure and you will have good flowers if you did not let them grow during last two months.

In cooler sections where roses have become dormant they may be transplanted. Old bulbs which need replanting which have not been lifted should be taken and divided now.

The old lawn may also be given good fertilizer and renovating by pulling weeds. For each weed pulled put in a pinch of blue grass seed then watch it grow.

STREET TREES.

I AM asked to reply, through the Cultivator, to the following inquiries from San Luis Obispo.

"What is the best variety of trees for street planting in this location, the following points to be considered. deep roots, that will not disturb side walks and curbs, hardy, evenly shaped and not overly large when grown?"

"Would also like information as to best plant for narrow parkways between walks and curbs. Is there anything better than Lippia?"

While a great variety of trees are found on the lines of our California roadways, the list of those that have proven even fairly satisfactory in all respects, is comparatively short.

Among the limitations, I think our semitropical conditions call for evergreen trees on our streets and avenues as a rule.

Characteristics required should include proven longevity. A tree short lived under street conditions, however desirable otherwise, should not be planted on the avenue. The line after being partly grown, can never be made uniform after individual trees begin to drop out.

Form and foliage should be pleasing as individual trees, at the same time giving desirable effect in avenue line. Many varieties desirable, single or in groups, are unsuitable in continuous line.

The avenue tree should be able to endure some hardships and neglect.

Of shade trees complying with these requirements, adapted to San Luis Obispo and similarly located towns in California in a general way, I do not hesitate to place the pepper first. I do not mean the ill-shaped sickly pepper frequently found in our California towns, but the pepper possible with a little intelligent, persistent care from the planting. Erect, straight bodied, with frame work of top carefully formed and kept shape-ly by occasional pruning. While in the roomy open it sometimes assumes a broad, wide and spreading top, grand in proportions as the oak, its

habits of growth are such that its size and shape may be controlled by street conditions. With deep planting and a little after care its roots need not disturb pavement or curb. It is a fast grower, responding quickly to a little special care, soon entirely transforming the appearance of a street. As it matures it will bear pruning sufficiently high to expose frontages on residence streets, and the sky-line along open spaces, a most desirable feature.

The pepper as a shade tree, is to California what the maple is to the Middle States, the elm to New England and the oak to the South. It is the tree most admired by our visitors and enjoyed by our own people.

For a smaller, slower growing tree, the black acacia—Melanoxylon—fits the requirements as well as any of our thoroughly tested shade trees. It will not bear high pruning. For some years at least, it takes a compact, conical shape, but if desired for shade, by checking the upright growth, it becomes a wide spreading, handsome umbrageous tree with its thick, dark foliage giving a pleasing avenue effect.

Where shade is not desired some of the hardy varieties of the palm family are among our most desirable trees for the street. The stateliness of the native California fan palm, when well grown gives one of the most striking and pleasing tree effects on our avenues. The Washingtonia Robusta is at present more popular with us. Under favorable conditions is a fast grower, holds its fronds green much longer than the native palm, occupying less space, is better adapted to narrow street margins. It is an ornamental palm while young, and quickly makes a pleasing showing on avenue lines. To my own taste, when mature its thin stem gives a less stately effect than the thicker stemmed native variety.

Space does not allow me to discuss several varieties, in many respects admirably adapted to street ornamentation, which few special reasons do not seem to me so safe and suitable as above, for general avenue purposes, but for special locations may be more desirable than any of these mentioned.

As to the second query. Where a well kept lawn is not practicable for the purpose mentioned, Lippia is doubtless, the best plant yet introduced.—J. H. Reed, Riverside.

We are glad to say that Mr. Reed will furnish a few articles to Cultivator readers on planting and care of street trees. Mr. Reed is Tree Warden of Riverside and in that capacity has done magnificent service for that city. For that service and his many admirable qualities Mr. Reed is one of the loved of the earth.

A GOOD TREAT.

The sport—How can you tell a young partridge from an old one?

The kid—By the teeth, sir.

The Sport—You little idiot! A partridge hasn't any teeth.

The Kid—No, but I have.

NOT TWO OF A KIND.

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Winks—Partly so. One of them is girlsterous.

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MACADAM ROADS.

"Will you please state in the Cultivator whether in your judgment the Macadam road is the best road to make in towns of from four to six thousand inhabitants?"

In reply to the above question we would say: Macadam roads of late years have been regarded as expensive and not as durable as was formerly supposed. The Macadam type of road surfacing is well adapted to thoroughfares connecting centers of population where there is a moderate amount of travel. It has been found since the advent of the automobile that Macadam roads do not last any considerable length of time without repair, for the reason that the suction from the rubber tires has the effect of tearing up the binder on the road, creating an uneven surface which, when broken, soon leads to chuckholes. The Department of Agriculture has recently issued a bulletin in which is given in detail the best system for Macadam road construction. In this report it appears that the road was originally devised by John L. Macadam, a Scotch engineer, in the early part of the last century. It was used very generally in the Eastern States, obtained considerable popularity in the Middle States, but on account of its expensive nature it has not been used much of late. In its stead the coal tar and asphaltic oil with a substantial base has been used with success. In this State excellent roads are made from heavy asphaltic oil with a proper foundation and a heavy gravel surface. We could not recommend the construction of Macadam road for rural districts, nor for towns, as the oiled road can be made very much cheaper. The Macadam road is not an economical form of pavement for the main streets of cities and towns and is too expensive for country use.

RURAL MAIL DELIVERY.

One of the elements which has made the life of the farmer attractive in late years is the rural free delivery of mail. Although he may be situated miles from town, the farmer is yet in touch with commercial interests of the country as much as if he lived within a mile of a telegraph office. He can reach his bank by mail every day and transact business without the inconvenience of going to town twice or three times a week.

His wife can order, through the mail, groceries for the home in advance of the delivery wagon which makes tri-weekly trips into the country, and his children can also order what they want in bundles of the statutory weight, to be sent by mail.

There are still many sections in this State where the rural free delivery system has not been established. This may be owing to the lack of enterprise on the part of the inhabitants of these localities, in pushing their claims, or it may be that the districts are too sparsely settled to permit of a free delivery route being established. But in any event, wherever a route can be put on it should be. It is a time-saver, and a money-saver, to every farmer in the land, and if the matter is pressed upon by the postoffice department, through the member of Congress residing in the district, it will result in establishing a free delivery route where conditions will warrant the postoffice department in establishing one.

As a general rule farmers do not demand of their representatives what they are entitled to receive. Congressmen and Senators know that their tenure of office depends on the votes of the agricultural class and they will be slow to oppose any appropriation which is calculated to affect the farmers' interests, and knowing this, they will, if pressed, look after the farmers' interests first.

There is no other single benefit of such general importance to farmers as rural free delivery, and politics cuts no figure when a measure pertaining to that service is before Congress. The farmer is entitled to every convenience it is in the power of the government to furnish him and the cost is a matter of secondary importance. Comparatively speaking, the farmer receives less from the government than almost any other class of citizens. Practically the only congressional appropriation that directly affect him are those made for rural delivery, agricultural experiment stations and good roads. This being the case, the agricultural class is justified in demanding rural delivery, agricultural experiment stations and good roads.

An unprejudiced observer, visiting the pavilion, will come away with the conviction that almost any product grown anywhere in California can be grown to an equal perfection almost anywhere else in California, but that nowhere else on this continent can any such range of production be coaxed from the soil as in this State. California is a wonder.—Sacramento Union.

THE MEDITERRANEAN FRUIT FLY.

Continued from First Page

these were fully grown on the 25th March and went into chrysalis on that date.

In connection with egg-laying I find that from four to seven eggs are laid in each puncture or chamber, and not alone does the fly puncture the fruit, but it also constructs an oval-shaped chamber which is apparently lined with a tough brownish substance. At Numurkah I found four tiny elongated eggs of a dirty white color, and these, when seen under the lense, shone similarly to the body of a young larvae. The eggs lay parallel to each other, and occupied about half the capacity of the chamber. The young larvae hatched out on the following day, but we did not succeed in rearing them. I have found four larvae each in a number of peaches which had apparently only one puncture each. I have also found twelve larvae in peaches where only three punctures each were visible. Then again I have found five, six and seven larvae in peaches, each of which had apparently only one puncture, but I have never found less than four in any peach. Therefore it is only reasonable to conclude that from four to seven eggs are deposited in each chamber, and that four are more frequently laid than any other number. Flies are apparently not fit to lay until they are four days old.

An analysis of the above will show that from the time the egg is laid until larvae is fully grown is 12 days; that the chrysalis stage is 13 days;

that the life of the perfect insect when fed is days; that from the time the egg is laid until the insect which it contains dies of old age is 50 days; that when the fly is not fed the 50 days are reduced to 29 days.

I have not been able to determine the term of the eggs' incubation.

In Western Australia, Mr. Fuller remarks, "the fruit is attacked directly it begins to sweeten and before it ripens, green fruit being seldom if ever attacked. The eggs are laid in the fruit by means of a very sharp needle-like organ called the ovipositor borne on the extremity of the abdomen of the female. The maggots are soft, yellowish white in color, somewhat shining and limble worms, and somewhat resemble those of the men fly. The pupa and chrysalis are oval and stout at first a golden yellow but subsequently changing to a reddish brown. The flies are pretty little insects with two wings only, about half the size of the common house fly. They have very large and lustrous eyes, the thorax is mottled with grey stripes of a silvery grey color. The wings are large and simple. They are transparent, strongly veined, and marked by several clouded bands of grey and yellow color. In walking the fly always carries its wings in a drooping attitude. It is a very difficult thing to find the fly in an infected orchard, although they may be present in large numbers. If, however, a maggoty peach be put aside in a box for a few weeks the flies can be reared and easily observed.

It has frequently been stated in Queensland and New South Wales that the flies will not attack green fruit. This is a mistake, as I have on many occasions proved eggs to have been deposited in green bananas before shipment, as no half-ripe bananas are ever shipped from Queensland to Melbourne. This fly would appear to be more numerous than are the other kinds here mentioned. No less than 60 adult specimens have been reared at our office from two specimens of the bitter or Seville oranges which have been sent from one of the northern ports of Queensland. The indications of the presence of the fruit-fly larvae in such fruits as the citrus family are, although easily detected by the practised eye, upon the whole not well defined. The skin of oranges, lemons and limes being more or less of a rough granulated texture renders the task of finding the infected fruit, where large consignments have to be handled, by no means an easy one.

In Victoria, at least, it is astounding with what rapidity this fly destroys the fruit in the orchard, only a few days, in the case of peaches, elapsing before the whole of it is rendered unfit for human consumption, it, the fruit, being absolutely decomposed and discolored. In Victoria, our experience has taught us that the first fruit to be attacked are apricots, then peaches, then, as the broods hatch from the ground, other fruits, as apples, pears, persimmons, etc., are attacked in succession. From observations made in the field, I am speaking of the north-east part of Victoria, the trouble has been traced through the medium of imported fruits, bananas and oranges especially, infected fruits of both kinds being commonly obtainable in Melbourne, the suburbs, and in the country townships. Those who have carefully studied the habits of the fruit-fly are aware that their flight is but short, and judging from their habits in our Victorian orchards it would appear that the fly does not favor long distance journeys, although, as with some other kinds of short flight insects, it would be possible for this pest to fly or be even blown across the Murray. This is, of course, a mere surmise, but the fact of the grubby fruit being even obtainable in Melbourne and elsewhere, goes to prove how necessary are the extra precautions now being taken by the Department. As one who has seen the fly at work both in New South Wales and Queensland, I assert that the ravages of the Mediterranean fly in Victoria are quite as bad as either the Queensland or New South Wales experiences have been able to record, half-green peaches being attacked as badly as those either ripening or ripe. The perfect Queensland fly has not, as far as we are aware, made its appearance amongst us, and we sincerely trust it may not do so.

Referring to the life history of the Mediterranean fly as observed in Victoria, the female insect punctures the skin of the fruit when the latter is in the condition of being half-grown, hard and green to that of ripe or ripening fruit, and by means of ovipositor places from five to fifteen eggs in each fruit. These hatch out in a few days, the maggots remaining in the fruit for about fourteen days. The fruit then drops to the ground and the maggot or grub enters the earth to the depth of a few inches, and there assumes a chrysalis form, from which the fly emerges in from 14 to 20 days, according to climatic condition. In a climate like Victoria, it is thought possible, taking the succession of fruits into consideration, that we may have a fresh brood for nearly seven months in the year. It has been questioned by some persons whether this fly is found in Queensland at all, but the fact of it having been reared by us from bananas and oranges from Maryborough places the matter beyond the shadow of a doubt. If such be not the case, then the fruit must have been affected during transit, a theory which I, for one, will not entertain.

Agricultural Notes of the Pacific Coast

Northern California

Levee work in District No. 2, Sutter county, is progressing.

"More hogs more prosperity" is the aim of the Gridley Herald.

Prunes ripened about three weeks earlier about Chico than usual.

A ton to the acre is being yielded by some hop yards about Healdsburg.

A new cannery is to be established at Marysville during the coming season.

Sacramento wine makers are paying \$14.50 per ton for grapes at Yuba City.

The outside hop pickers in most of the yards have returned to their homes.

Large numbers of resistant vines will be planted in Mendocino county this season.

A sheep herder was fined \$100 in Yuba county for trespass of the forest reserves.

Sutter county claims that her grapes are one-fourth larger than usual this season.

The olive crop of the Sacramento valley is reported to be much larger than that of last year.

Next spring will see a large area of pecans and English walnuts planted in Glenn county.

The Sutter county creamery recently started, has an output of six hundred and fifty pounds daily.

Trinity county is offering a bounty on coyote scalps owing to many sheep being destroyed by the pests.

Soil conditions in Yolo county, especially about Woodland, are said to be most friendly to sugar beet culture.

Northern Sacramento valley had a visitation of rain last week, but not heavy enough to do either damage or good.

Tons of tomatoes in Manteca and Yuba sections are going to waste owing to inability of canners to handle them.

Surface water all pumped out of District No. 556, near Isleton, puts that section in line for cultivation again.

Plans are being considered for the improvement of Yuba slough by which much valuable land will be reclaimed.

The annual convention of the California Creamery Operators' Association will be held at Davisville, November 22nd and 23rd.

The absolute freedom with which grapes were given away during the Idi (Tokay town) grape festival surprised all attendants.

While United States Senator Tillman was in Santa Rosa recently he killed upon Luther Burbank and investigated the spineless cactus.

Petitions are being circulated in many sections of the Sacramento valley asking Governor Gillett to reappoint Elwood Cooper as Horticultural Commissioner for another term of four years.

One hop yard wishing additional pickers near Tehama advertised for pickers \$1.00 per hundred, bonus 10 cents, tents free, fire wood free, with music, dancing, athletic prize contests as additional inducements.

Central California

Kerman is to make experiments in raising tomatoes.

Eastern Fresno county is said to be some on Black Eye beans.

Selma has a peach tree which bore 13 boxes of fruit this year.

Nectarines are bringing ten to fourteen cents a pound at Fresno.

Kingsburg has two acres of peaches which yielded 20 tons, netting \$1200.

Prof. Bioletti claims the present season's output will exceed that of any year.

Fresno and Tulare county report the promise of large citrus output this season.

Canners are said to be reaping great profits owing to prices on canned fruit this year.

Congressman Needham delivered the opening address at the Hanford Fair last week.

Selma claims a pear orchard which is now giving its second crop of peaches this season.

Fresno agricultural fair has been declared a success and that without the betting adjunct.

In voting \$20,000 with which to build water systems Dinuba had but three opposing votes.

Fresno has the banner peach tree, as its owner claims a net return from it this year of \$33.80.

Stock generally in healthy condition is the report of Stock Inspector, Griffith, of Kings county.

Two hundred tons of dried apricots was about the extent of the Fresno crop this season.

Hanford Sentinel says that drainage is one of the most important questions of that section.

Some growers declare that the output of raisins this year will not exceed nine million pounds.

The Armenian raisin growers near Fresno are to organize a branch of the "Stand Pat" club which is holding for six cents.

The fair and races which were to be held at Bakersfield has been called off because of lack of support on the part of business men.

Salinas is still making some trip-hammer blows for more extended irrigation for that section and is hoping for government aid.

Salinas is producing oats the seed of which was brought in from Ireland, which is claimed will prove superior to our native varieties.

Assistant Secretary Hayes, of the Department of Agriculture, reports that Kearney Park near Fresno, is an ideal place for an agricultural school.

Pajaro valley is planning for a great produce festival to commence October 15th. Of course, apples and strawberries will be the principal features.

"Rain-maker" Hatfield has contracted with farmers at Crow's Landing to deliver ten inches of rain between November 15th and April 15th, for \$300.

The State Grange is holding its thirty-fifth annual session in San Jose this week. The people of San Jose have given a royal welcome and a good attendance. Much interest is shown.

Southern California

Ranchers at Beaumont, Perris, and Moreno are planting grain.

Oak Glen, near Redlands, will produce 800 tons of apples this year.

Twenty threshing machines are at work in Ventura county bean fields.

Beaumont is to have a eucalyptus grove which will cover several hundred acres.

The government is rushing its resurvey of the lands of the Imperial valley.

The first lima beans of the year were delivered at the packing house at Saticoy last week.

Santa Ana poultry growers are swinging into line for a county poultry organization.

It is estimated that the bean crop of Ventura county will not exceed 500,000 bags this year.

Riverside claims to be some on pears and has grown some exceptionally fine fruit this season.

Yucaipa valley produced nine thousand sacks of barley and thirty-five hundred tons of hay this season.

Ventura has finally dropped the San Buena from the front of its name and is now officially "Ventura" only.

Several wells are being sunk in Yucaipa valley which it is expected will supply sufficient water for irrigation.

Garden Grove claims to have pines growing on a fruit ranch which will produce as fine pine apples as any section.

Sixteen hundred cars of oranges is claimed to be next year's output from Highlands, East Highlands and West Highlands.

A mutual fumigating company has been formed in Orange which is co-operative in its plan of fighting scale and insects. D. F. Campbell is president.

The fruit men of Ventura county are still active in their efforts to have the sulphur ruling changed before another season opens.

The Coachella Valley is waking to the necessity of protecting its underground water supply by capping the wells which have in the past been left to waste vast quantities of water.

One result of the campaign recently started in San Diego county to wipe out the Texas tick is an enthusiastic co-operation which it is now probable will lead to extermination of that pest.

Arcadia in the outskirts of Los Angeles is soon to have a race track which it is claimed will take the place of Ascot, the gambling center, which was wiped out by being taken into the city limits of Los Angeles.

Riverside Press reports glorious prospects for the coming output of citrus fruits, while the output will not be exceptionally large, it will be fair, and the quality so far as can be judged at this date, will be of the finest.

The Colton Fruit Exchange shipped 262 cars of oranges last year. The directors elected to transact business for the coming year are James Barnhill, E. F. Van Laven, W. S. Bullis, E. D. Roberts, W. W. Wilcox, L. C. Newcomer, T. E. Moon, Wade Purdum, J. B. Hanna.

The Coast

Oregon potato yield is twice that of last year.

Nampa, Idaho, is shipping draft horses to Los Angeles.

The Palouse country will have its largest crop this season.

Best grades of hops in Portland is commanding only 8 cents.

Eggs at Denver are selling from eighteen to twenty-three cents.

Hay in eastern Washington is being injured by continued rains.

Oregon will ship over three hundred cars of onions this season.

There are forty prune evaporators at work near Newbury, Oregon.

More entries of draft horses than ever is claimed for Spokane fair.

Potatoes are being quoted in Portland market at 80 cents per sack.

Threshing is being delayed in northern Idaho by continued rains.

Notwithstanding the low prices of hops, picking is being rushed at north Yakima.

Kennewich, Washington, is experimenting in growing of frost-resistant oranges, "citranges."

A four days' harvest festival at Palouse, Washington, is said to have been a great success.

Riverside, Washington, held the most successful agricultural fair in its history last week.

The first car of Bartlett pears ever shipped from Kittitas county, Washington, was forwarded last week.

The Portland Oregonian says that the revival of the county fair is gratifying to agriculturists of the Northwest.

Over four hundred thousand head of sheep were sent from the Hood river section, Northern Idaho, this season.

Silverton, Oregon, crop of hops is fifty per cent less than last year. Many large yards have not been harvested at all.

Stevens county, Oregon, will ship about five hundred carloads of apples to one firm, being practically this year's output.

An Agricultural fair at Nelson, British Columbia, will offer special premiums for agricultural products of the prairie provinces.

The largest and most modern prune dryer in Oregon is located near Dallas. It has twenty tunnels with the capacity of 750 bushels a day.

Lumber men of the Northwest are glad to see the rains which are already coming, as it gives opportunity of floating over 30,000,000 feet of logs to the mills.

One farmer at Dayton, Washington, has a team of mules valued at \$5000. The team consists of thirty-two animals and is used to propel his combined harvester.

A threshing outfit at Sanwood, Washington, with a forty-five-inch cylinder threshed seventeen hundred sacks (average one hundred and six pounds) in ten hours.

Montana State Fair is being held this week. Agriculture will not hold the strong position that mining will, and it is claimed over \$100,000 in bullion will be exhibited.

PER
2 BUSHEL
SACK

\$1.90

PER
2 BUSHEL
SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by all largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis Worlds Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Flicher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland.
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis and Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

Beef Scraps Raw Bone

GUARANTEED ANALYSIS:

Protein65%
Fat8%

Made of Cooked and Dried Livers, Lungs, Melts and Clean Scraps. No fertilizer ingredients in these Beef Scraps.

Pure, Clean Animal Matter Poultry Foods

WESTERN MEAT COMPANY SOUTH SAN FRANCISCO CALIFORNIA

GUARANTEED ANALYSIS:

Protein25%
Phosphates45%

Made of Clean Beef Bones, surplus fat removed. Cleanest Raw Bone on the Market.

Lincoln Avenue Poultry Yards

—Capt. Mitchell's S. C. White Leghorns—

Utility birds of the highest grade. They will average from 150 to 280 eggs per year. The eggs will average 2 ounces and over in weight, with smooth, white shells.

Just a few breeders left at half price. **Positively no culls.**

Carl C. Curtis, Owner

Ranch Mirasol

Lincoln Ave. and Ventura St., Pasadena, Cal.
ALTADENA CARS

A GOOD TONIC ACME ROUP CURE CURES

FED TO YOUNG CHICKS WILL KEEP THEM HEALTHY AND VIGOROUS; THE OLD FOWLS WILL MOULT QUICKER AND EASIER; PULLETS WILL LAY EARLIER AND LONGER

LEE'S EGG MAKER

IS THE BEST TONIC MADE

LEE'S LICE KILLER
IS GUARANTEED

HENRY ALBERS CO.
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Beef, Blood and Bone Will Make Your Hens Lay

This is not a medicine but a high grade nitrogenous food. Write for free booklet "How to make Hens Lay." Our Poultry Foods are sold by all local dealers and manufactured solely by

The Pacific Guano and Fertilizer Co., Indiana and Yolo Sts., San Francisco, Cal.

Also Pioneer Manufacturers of High Grade Fertilizers.

Write for our free booklet, "Farmer's Friend." Valuable to all farmers and ranchers.

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experiences with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

POSSIBILITIES OF POULTRY ON A SMALL LOT.

WE are often asked what are the possibilities of poultry on a small lot? And how many birds can I handle profitably by doing all the work myself?

The first question we can answer better by giving some experiences of people we know who are making a success of raising poultry on a city lot. What can be done on a city lot can be accomplished on the farm or ranch on the same space with the same care and feed.

We are only going to give what has been done with thoroughbreds, for most land in California is too valuable to experiment with the common barnyard fowl.

Cost of Thoroughbreds.

The actual cost in care and feed of a pen of thoroughbred fowls amounts to no more than the common fowl. While the first cost of thoroughbreds is more, say twice what we would pay for the mongrel, yet the income is greater in dollars and cents, to say nothing of the difference in looks between a well selected flock of thoroughbred birds and the nondescript "happy-go-lucky" flock.

I don't believe I ever heard of an egg record being kept and account of stock being taken of a flock, excepting thoroughbreds.

A Small Flock.

We will give an accurate account of what was done with 75 pure bred Wyandottes for seven months and eight days of 1907.

This flock was carefully selected and had in it some show birds, or rather birds that had won prizes, and were attended to by a business man. So this flock can be counted as a "side issue" only and not the main dependence of the poultryman.

We believe a flock of 75 birds is a fair estimate of the average flock found on most farms or ranches in California where poultry is only kept as an adjunct and run in connection with general ranching. Still what ranch or rancher's wife could not find a good use for the profits that were turned in by this small flock.

The total receipts for the seven months and eight days were \$291.95, or a little over \$40 per month. Disbursements: Advertising, \$19.50; feed and supplies, \$50; paid for stock, eggs and express, \$37.45; total, \$106.95; net profit, \$185, or over \$26 per month.

The item in the expense bill of \$37.45 paid for stock and eggs, may not be quite clear to some of our readers. This amount was paid for breeding stock and eggs for setting, which were afterwards sold.

Other items which would make the profits greater if figured in, would be eggs and stock for table use, as all feed was charged against the birds; all eggs and stock used for the table should have been credited at market prices. We are sorry that we cannot give the value of the flock at beginning and at close of the time the record was kept.

How Much Profit on 1000.

The question naturally arises, can I make the same profit in proportion

on 1000 birds by devoting my entire time, as was made on the 75 birds. This can only be answered in a general way, as it all depends on the manager. Perhaps 100 birds is all one can handle profitably, while another may handle twice that many and the third ten times; it all depends on the man "behind the gun."

Learn to handle profitably 50 birds then double that number and so on until you reach your limit.

The number of birds a man or woman can properly care for depends entirely upon the man and conveniences he may have in appliances, houses, yards, etc. Many failures in the poultry business are due to the one cause of trying to care and house more birds than can be done. Better have 100 well fed, well housed and properly looked after than 400 half fed and mismanaged.

AROUND THE YARDS.

October work.

Prepare for winter.

Cull the flock, sell the drones.

See that your poultry houses are in condition for the rainy, cold season.

Healthy flocks, as a rule, are hearty eaters.

Green food fed at noon will, in place of a grain ration, increase the egg yield, give better fertility and stronger chicks.

Don't confuse balanced ration with "mixed diet." The former refers to the proportion of nitrogenous to non-nitrogenous nutrients in the ration; the latter, of course, only refers to a mixture of foodstuffs.

Feather pulling is the worst vice a hen can have. Catch the guilty ones that do the feather pulling, take a sharp knife and trim the edges of their beaks, and feed them plenty of lean meat. They generally commence by picking the combs and wattles of the cockerels and making them bleed; the blood gets on the feathers around the neck, and the hens eat the feathers by plucking them from each other.

Don't make the mistake of keeping more birds than you can properly house and care for. If you have been fortunate in hatching a goodly number of chicks and there is any doubt as to the number you can house, cull close and give the birds the benefit of the doubt. Fifty hens well housed, well fed and properly cared for will return more profit than will 100 half fed and crowded into quarters too small.

Age of Breeding Leghorns.

Will you tell me at what age white leghorn hens are old enough to breed? I have some nine months old, would their eggs now be considered pullets' eggs, or hens' eggs? They began to lay when five months old and their eggs are now as large as hens' eggs. —F. T., Santa Ana.

Your Leghorn pullets are old enough to breed from now or even at six or seven months old, if they began laying at five months. Birds are consid-

POULTRY SUPPLIES

AND INCUBATORS

Agent for **Dayton's Roup and Canker Cure**, positively guaranteed to cure or money back. Send 50 cents for trial package. Newest, finest largest, and most central store. Prices the very lowest. Come and see.

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707 So. Spring St.
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GEORGE W. POPPELWELL
Successor to C. H. Robbins
Breeder of White Leghorns, Black Minorcas and Barred Plymouth Rocks. Eggs for hatching, \$2 to \$5 per setting. Single birds, trios and breeding pens a specialty.
Yards at Ranch (10) Phone Main 1583
943 W. Fremont St., W. Stockton, Cal.

Black Minorcas Exclusively
Show Record at Los Angeles, January, 1907. 5 First Prizes, 4 Seconds, 4 Thirds, 3 Fourths, 3 Fifths. Also two Silver Cups. They will make money for you. Stock and eggs for sale. Catalog free.
I. A. Wheeler, Box 123, Lordsburg, Cal.
Successor to Perham & Wheeler

WHITE WYANDOTTES THAT WIN AND LAY
\$15.00 and Up Per Dozen
Mammoth Bronze Turkeys Reasonable.
Lakenvelders, per pair, \$8.00; trio, \$10.00.
R. C. D. HUBBARD, BOX 282, SAN FERNANDO, CAL

BARRED ROCKS
EXCLUSIVELY
Send for Sixteen-Page 1906 Catalogue
H. R. CAMPBELL
BOX O PETALUMA, CAL.

Baldwin's White Leghorns
First prizes San Jose '06, and State Fair '07
Fine youngsters at reasonable rates. Good older stock cheap to make room. Full description of stock and price list mailed free on application.
Frank E. Baldwin
16 Washington Ave. San Jose, Cal.

Spargur's Trap-Nested White Leghorns
Laying Pullets six and seven months old from above hens, at \$15.00 per dozen. Also I. R. Ducks and Drakes at \$9.00 per dozen.
H. G. Spargur, Soquel, Cal.

Bantam Beauties
Choice Youngsters from Prize Winning Stock. Silver Sebrights, Black Cochins, Golden and Grey Japanese, Black Tailed Japs, Silver Duckwing Leghorns, in pairs and trios as low as \$2.00 per pair. These are from blue ribbon winners. I can please you. Write for particulars.
A. E. Halsey
Corner Laurel and Milan Avenue
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WHITE, BUFF COLUMBIAN WYANDOTTES
And Golden Sebright Bantams, prize winners
Stock and Eggs in season
M. E. Dillingham, Box 67 San Gabriel, Cal

SHADE'S RHODE ISLAND REDS
The World's best layers. Our folder for '07 is ready. Drop a postal to
J. W. Shade
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White Wyandottes (Hubbard Stock)
Egg, \$2.00 per setting, \$10.00 per hundred
March Cockerels For Sale
Cannon Poultry Co. 2851 Morgan Ave.
Los Angeles, California

White Plymouth Rocks and White Leghorns
200 large, healthy exhibition and breeding specimens for immediate disposal. Prices that will please you. Eggs if you want them. Call or address **J. W. Whitney, 413 E. First St., Long Beach, Cal.**
Yards at Willow Junction.

WHITE WYANDOTTES EXCLUSIVELY
Good, White, Typical Birds. Stock and Eggs For Sale.
W. A. SEYMOUR
470 No. Baudry Ave. Los Angeles, Cal.

ered pullets until they are one year old.

Intestinal Worms.

I have just killed a young chicken among whose intestines I found worms about two and one-half inches in length, yellowish white and quite pointed at both ends. There was also one in the stomach and there was a hole in the walls of that organ through which the other worms had evidently got out.

Please tell me how to eject these worms. I suppose there is nothing to do after they have got through the lining of the stomach. The chickens have been drinking from water which was almost standing. All my chickens, including the one I killed, seem to be well, but I am afraid some of the others might be infected anyway.
—R. E., Kingsburg.

For each afflicted bird, give about twenty drops of turpentine in a teaspoon of sweet oil. For treatment of flock give about thirty drops of turpentine to a quart of drinking water, and give a teaspoonful of sulphur to twelve fowls fed in a mash. This will rid your flock of the trouble.

Chicken Pox.

I have a flock of eleven young turkeys about four months old. A few weeks ago they began to have little lumps all over their heads, which I supposed were just the natural roughness. These lumps have grown larger and more numerous until their heads are almost covered and their eyes almost closed.

I am new to California and new to the poultry business, only coming here in May, but I have a nice little stock of chickens, besides the turkeys. I have given them every care possible so feel particularly worried about this disease.

I find the Cultivator a great help in many ways.—Mrs. H. C. H., Anaheim.

Your turkeys have Chicken Pox. In Sept. 19th issue of the Cultivator you will find an article on Chicken Pox and treatment of same.

Roup.

Will you please let me know through the columns of the Cultivator, what is the matter with my young chickens. They are between two and three months old. And they are beginning to go blind, in both eyes, and then they die.—F. Y., Lodi.

We wrote to Mrs. Y— asking for further information and have diagnosed the case as swell head or roup. Treatment: I would open the swelling at a soft point and clean out matter then work or inject full strength sulpho-napthal, and apply same to canker. Add a few drops kerosene oil to drinking water, make every sick bird drink the water for three days. Or if you can get a reliable roupe remedy, procure it and give according to directions.

Duck Eggs.

How early in the fall can Indian Runner duck eggs be set?—Mrs. J. M. W., Santa Paula.

After your ducks are fully matured and are laying eggs that are normal size, we would not hesitate to set them.

FEEDING DURING MOULT

Feeding, at this season of the year should be given as much attention as at any other time, in fact, proper feeding during this month is of vital importance for the welfare of the fowls. Not infrequently we have some of our hottest weather during the month of September, and as a consequence irregular or improper feeding increases the liability of the fowls to get out of condition.

The old stock is now going through the moult and upon proper feeding and care depend their future usefulness in the show room. Most breeders do not give this question the attention it deserves. Many a bird has been ruined for the show room by lack of attention in the matter of feeding.

Different Feeding.

Different breeds and varieties of breeds require somewhat different

Hen Fruit Pays. If you want more, feed

Egg-More

Poultry need to be fed a scientifically balanced ration as much as any other stock. Egg-More is just the thing to mix with good grains to make the same a rightly balanced ration. It is highly nitrogenous, very rich in protein, will keep the hen in good health, sustain her system properly, and enable her to lay lots of eggs when they are scarce and high. Just a little fed daily with good grains, or even with bran, as directed with each package, will do it. It can be fed either dry or as a mash. It contains no cheap filler; the hens like it, they eat it, there is no waste. It makes the cheapest Egg Food especially if you can buy your grains at home cheaper than to ship them in. Many so-called "poultry foods" and "egg-makers" are nothing but stimulants and not advisable to be fed regularly. Egg-More is not a strong tonic and stimulant, but merely contains enough condiments to give the food relish and keep the fowls in fine fettle. It will pay its cost many times over in the increased egg yield. 4-lb. package, 35 cents; 25-lb. pail, \$2.00; 50-lb. sack, \$3.75. If your dealer doesn't keep it, we will deliver a pail or sack freight prepaid by us.

West Coast Stock Food Co.

818 San Fernando St. (Through to Alameda) Los Angeles, Cal.

Reasons Why

Every Poultry Raiser Should Use

A. C. W. Goods

Ask Your Dealer

- Because They are free from chemicals.
 - Because They are manufactured in Los Angeles—always fresh.
 - Because All chaff and indigestible matter is eliminated. No stomach or bowel trouble.
 - Because A. C. W. Egg Food is prepared scientifically, feeding to laying hens the necessary elements in the best proportions to produce eggs.
 - Because There is no waste to A. C. W. Foods.
 - Because A. C. W. Goods are sealed. This insures the consumer obtaining them in their original condition of purity.
- We also manufacture Bone Meal, Blood Meal, Beef Scraps

Agricultural Chemical Works
901-907 Macy Street Los Angeles, Cal.

Baby Chicks All Standard Breeds Eggs

We are the pioneer hatchers in this section. Chicks can be shipped 1,000 miles without loss. Our chicks are hatched in a 25,000-egg incubator and are strong and healthy. We make no extra charge for crating and can sell cheaper than any others in this line. Write us for prices on any Standard Breed in any quantity. Eggs from all breeds. Incubator Lots a specialty.

FEED CHICKS DOKE'S CHICK FEED.

Doke Stock Food Co. 711 So. Main Street
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FERN PARK POULTRY RANCH

EGGS FOR HATCHING

All Eggs are from good, strong vigorous stock.



WYATT & WOLLITZ, Proprietors

—Breeder of—
Single Comb Buff Orpingtons White Rocks and Indian Runner Ducks

Orpington and Rocks \$2 per setting; \$6 per 100.
Duck Eggs \$1.50 per 12.
Write your wants. Correspondence carefully answered.

Box 298.

WYATT & WOLLITZ, Corona, Cal.



Clover Cutter

Every Chicken Raiser needs one.

Price \$7.50

All orders shipped same day received

Arnott & Co.

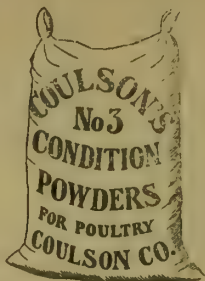
Los Angeles St., bet. 1st and 2nd
Los Angeles California



For a **Practical Pointer** in **Poultry Profits** use the

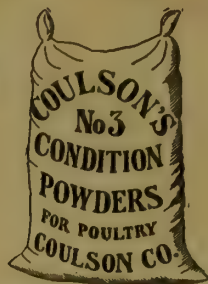
They are the best on earth
Principal Incubator Co., Graton, Cal.

Send for New Price List



Coulson's

No. 3



Condition Powder

For POULTRY

If you are not already using COULSON'S NO. 3 CONDITION POWDER, we would suggest that now is the time of year when your hens most need a tonic, to get them into condition after a heavy laying season. If you neglect them now, and they go through the molt in poor condition, it is likely to take them a long time to start laying again, with consequent loss to your pocket.

WE CLAIM

COULSON'S No. 3

Condition Powder

will put the flock in good, vigorous condition, not only enabling them to withstand any possible infection or disease, but enabling them to go through the molt rapidly, and to commence laying again before the cold weather sets in. We practice what we preach, by giving our own hens a little of Coulson's No. 3 Condition Powder three times a week, and although they are beginning to molt heavily, their combs are as bright and red as at the beginning of the season. You will find that it does the same with yours if you give it a fair trial. It will not only do this, but will enable the hens to digest a much larger proportion of their food and thus save your feed bill considerably. Therefore, if you wish to make money this fall and winter, inquire right now at your dealers for Coulson's No. 3 Condition Powder, and see that he keeps a stock so that you have it when you want. Where the local dealer does not keep it, we will make you a SPECIAL OFFER to deliver it freight prepaid to any Railroad Station in California, at the following prices:

10-lb Package, \$1.50; 25-lb Package \$3.25;
50-lb Package, \$6; 100-lb Package, \$11.

Prices prepaid to R. R. Stations in Oregon, Washington or Nevada will be: \$1.75, \$3.50, \$6.40, \$11.50 respectively.

GET SOME NOW AND INSURE YOURSELF
LOTS OF EGGS WHEN PRICES ARE HIGH.

MANUFACTURED BY
**Coulson Poultry
and Stock Food
Company,**

Petaluma California

feeding. The locality and whether the fowls have free range or are confined to runs must also be taken in consideration. Range fowls generally get sufficient food and in such variety to keep themselves in a vigorous state of health, but if there is slowness in the new feathers coming in, or they appear dull and not bright and snappy as they should, or if the fowls appear weak, there is evidence that the food is insufficient in either quantity or quality, or both. A healthy fowl properly fed should show no ill effects from moulting. This is a natural process, and as the hens stop laying during the moult they drain on the system from growing new feathers should not be much greater than from laying eggs. But it is easily seen that to produce a good coat of clear, bright plumage the fowl must have as careful feeding as when laying eggs. Perhaps there should be better care in the matter of feeding during the moult than during the laying season for the reason that the fowl puts on a coat of feathers but once a year. A mistake then in the feeding at this time might mean loss for the entire season, while a mistake in feeding during the laying season may be corrected with comparatively little loss.

A Good Coat.

What is wanted to produce a good coat of feathers is a ration that comprises all the elements necessary to produce a proper growth of good healthy flesh. In growing new feathers the fowls are in need of much the same materials as the growing chicks. There should not be an excess of heating and fattening foods, such as corn and cooked vegetables. Many make the mistake of feeding an excess of cooked vegetables such as potatoes. These are all right, but must be fed in moderation. Give good sound grains, such as oats, wheat, barley, speltz, millet, some corn and bran. The latter is excellent for the fowls at all seasons of the year. In addition to the grains, sunflower seeds and oil meal may be fed frequently, as these contain the materials that give the rich gloss to the plumage so much desired in many varieties. Plenty of green food is also of vast importance at this time. Without green food it is very difficult to keep the fowls in a healthy condition. There is an abundance of it at this season and no one should experience difficulty in keeping his fowls well supplied with this much needed article of food. Meat food is also essential. Fresh meat is about the best, if it can be obtained strictly fresh at a figure that will make the feeding of it profitable. Next come green cut bone and beef scrap. The bone must be freshly cut and care should be exercised that scraps of meat that may cling to the bones have not become tainted. The beef scrap should be the best that can be bought. All meat foods should be fed in moderation until the fowls become accustomed to them, as an excess of meat is almost certain to cause bowel trouble.

Effect of Food on Color.

In white varieties certain foods have a tendency to produce off-color. Yellow corn gives a creaminess to the feathers and should be fed with great moderation during the time the fowls are growing their new feathers. White corn is to be preferred for this reason. Breeders differ somewhat on this point, and the individual breeder must largely act on his own judgment. If experience has taught him that a certain food ration gave good results, that is the ration for him to adopt permanently. If a certain food has been found to have an undesirable influence on the color of the plumage, it is showing the part of wisdom to discard that particular food.

In this connection might be mentioned the fact that the sun has an influence on the color of plumage and fowls that are exposed to the hot rays of the sun during the entire day are not likely to show as good plumage as those that have plenty of shade. Poor color in the plumage should not be attributed to the food when proper shade has not been provided.—L. B. Gardner, in Successful Poultry Journal.

Bees and Their Care

AS TO VARIETIES.

THE instance of voting on various races of bees cited recently by Mr. Horn in the columns of the Cultivator, raises several interesting questions or themes that might bear further discussion. It is not surprising that the very conservative mountain peasants of the German cantons of the little Swiss Republic should be partial to the German bee. I say, not surprising, for here perhaps, if anywhere, the brown bee obtains more nearly in its purity. Further than this it is to be noted what Mr. Horn says in reference to the careful reeding of these bees by the thousand by experiment stations through series of years, all the while keeping in mind a definite type with which each generation was compared and those not measuring up destroyed. This, it will be readily seen, has evolved a carefully selected type, bred from the bees originally found in process not unlike the development of the so-called golden Italian bees of this country from the leather Italians, the true bees of Italy. We have the paradox of this misnomer coming out in the extremely ludicrous position of Italian beekeepers importing from America so-called Italian bees— a reality some product of the indiscriminate American queen rearers.

That the German, brown or black bee as it is more commonly called in this country, should be hardy in Switzerland is perfectly natural from its mountain environment—long winters, short summers, sudden storms, particularly wind storms so destructive to bees, etc. They are free from disease because of their isolation. They are good honey gatherers; because of the short season for flowering plants. All of these, it is to be noted with interest, the similar conditions which have influenced the development of the Carniolan or Krainian bees as Mr. Horn calls them. He living the German or Slavic name. It is further to be noted that they receive the next highest number of votes, receiving twice the number that Italians do, the latter being a race totally unfit for rigorous northern or mountain climates. They are unfit, because of their lack of quietness on the combs, inherent vitality and their tendency to spring-dwindling.

It is true that black bees cap their honey white, perhaps whiter than any other known race of bees. The reason is very simple. They are not good honey gatherers as many other bees may be called even lazy. Consequently, they cap their cells of honey before the cells are full, possibly only three-quarters or two-thirds full. The honey does not reach the capping as a result and the extreme whiteness in appearance follows. Bees more energetic fill their cells brim full and in capping add more and more honey up to the very last opportunity so that when the cells are completely capped, a watery appearance is a result, this due to the honey touching the cappings.

This leads us into the very interesting discussion of why beekeepers are prone for the sake of the almighty dollar, to continually cultivate in their customers these abnormal standards of judgment. If the beekeeper

happens to be a comb-honey producer he caters to whiteness of appearance, rather than full measure and quantity of honey in his pound section. Truly, these are whited sepulchers which outwardly appear beautiful but inwardly, in this case, are not as full as they should be. If the beekeeper happens to be an extracted-honey producer he extracts his honey before it is capped. Why, so that he may on the one hand selfishly save himself the labor of uncapping his honey and on the other hand so that he can hand out to his customers a "water white" product—watery indeed—of a very inferior quality of flavor. He gets more honey, because it is part water. This is a field where it might be well for the pure food law to at least investigate. It is easier, because he does not have to uncap it, and more unsalable because he caters to color and not to quality, thereby developing in his customer an abnormal and false standard of judgment.—Ralph Benton, Berkeley.

VALUE OF BEES TO THE FARMER.

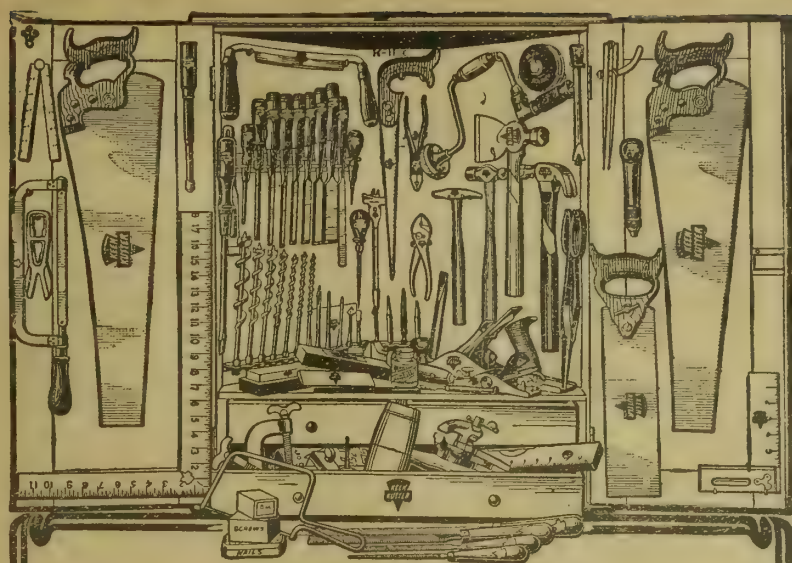
The honey bee is one of the most useful insects to man if he does not occupy the first place. Many farmers think only of honey as the beneficial result of the bee's labor, while some others would consider beeswax well worth mentioning. As these are the considerations which usually lead to bee culture, we may consider the subject from that standpoint in connection with local conditions.

Some honey produced in Stanislaus county is of very fine quality, while some honey, especially that produced on the rivers, may be quite dark and of poor flavor. It is my opinion, based on several years' observation and experience that there is more profit in honey and wax production on a good river range than in alfalfa localities several miles from the river, as the honey flow is usually more reliable, although the honey does not sell so well.

This is not a gilt edged bee country on account of our very windy weather and the early cutting of alfalfa, one of our best honey plants; but it may be conducted with profit as a branch of diversified farming. Under present conditions no one can expect to make the profit in bee culture that some are doing with dairying and fruit raising.

Pollen Distributor.

The economic importance of the honey bee to the general farmer as a pollen distributor—as an aid to the fertilization of flowers—far overshadows the products of the hive. By a wise provision of nature many insects carry pollen from flower to flower, thus insuring perfect fertilization of flowers, and easily the best insect we have for the work is the honey bee. Some say his harmonious work is the result of chance, others say that it is a result of evolution and mutual need between plant and bee, while it is also contended that it is directed by Creative intelligence; but all careful students of the book of nature must admit the fact and deal with it as such. In the westward march of civilization across the United States the orchardist has at times out-traveled the honey bee, but he had to wait till the bee overtook him before he could get full pay for his toil.—W. A. H. Gilstrap, in Modesto Herald.



The Home Tool Kit

When you want a hammer or a hatchet or any tool for any work, you know and everyone knows that the right way to be sure of satisfaction is to order Keen Kutter tools.

But when you want a complete set of tools, instead of buying one tool at a time and never having the right tool when you want it, order one of the

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Every tool has its own place in the cabinet and every tool belongs to the famous Keen Kutter brand, which means they are the best you can buy and that they are guaranteed perfect. Keen Kutter Tool Cabinets are made in various styles and sizes at prices ranging from \$8.50 to \$35.00.

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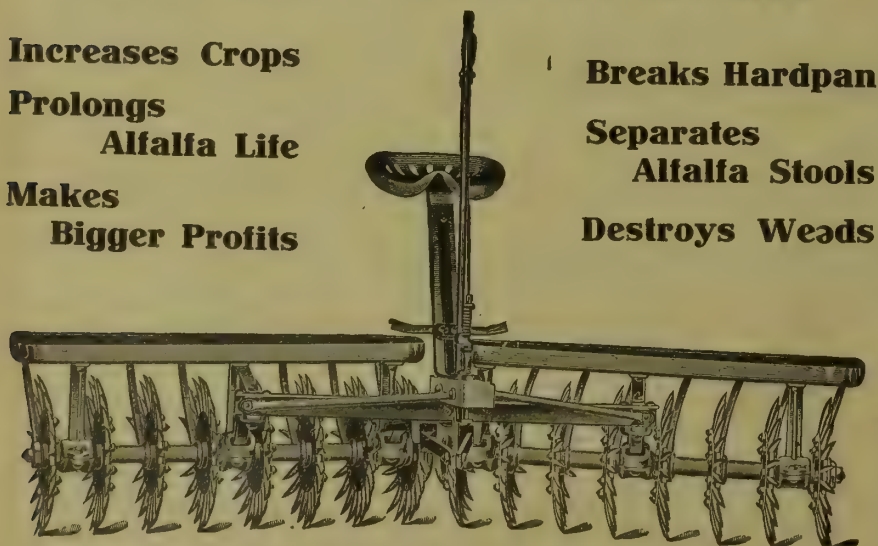
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helps the wheels go round. Makes heavy loads light and hard roads easy. Better than Castor Oil. Everywhere—all sizes. Made by STANDARD OIL CO. Incorporated

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Strengthens the digestive organs, tones up the system, stimulates growth, purifies the blood and greatly increases the production of eggs.

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General Agriculture

GOOD TASTE FOR FARMERS.

AS A RULE, whatever pleases pays. Men and women readily sanction a larger profit on luxuries than they do on necessities. The actor who entertains has a larger salary than the teacher who instructs, and when it comes to eatables the same underlying principle prevails, for the eye must be pleased as well as the palate. The highly colored apple which can be "shined up" by the Italian or Greek fruit vender on the street corner, has a virtue all its own in its money making power. Take the same basket of cherries and note the difference in the price they will command when thrown in helter-skelter into a basket and when they are packed with infinite care and exquisite taste. The clean boxes decorated with filigree and tinsel have not a little to do with the profitable sale of its fruit contents.

A pertinent suggestion is made to the Statesman of Salem, Ore., with regard to the potato. It is a habit of the average farmer who has potatoes to market, to dump them unassorted into any sacks he may have on hand, whether clean or dirty, whether patched or ragged. The suggestion is made that it might add materially to the price received if potatoes were well assorted and packed in boxes of convenient size.

One up-to-date farmer's wife, who has picked customers in Spokane, has been in the habit of bringing them cottage cheese with her butter and eggs. Recently she adopted the practice of weekly packing this cheese in small paper buckets the same as are used by the venders of ice cream, pickles, etc. Each of these little packages she sells for a nickel. At first thought it would seem that this woman would have enough to do as a busy farmer's wife without going to all this trouble to sell bits of cottage cheese, but the nickles count up, and her customers are pleased and buy readily. The same trait leads her to adopt the most approved styles in marketing other products, and when she comes into town with a fine span of driving horses there is everywhere about her the air of prosperity. This woman is doing her part in raising farming from the low level of unprofitable drudgery to the high art of an enviable vocation.

No calling in life lends itself more easily to artistic influences than that of farming. Art means dollars to farmers. There is no question about it. The time may yet come when every live farmer's organization will have its art department in charge of an artist who shall spend his time in making designs, and suggesting ways of packing fruits and produce and preparing effective advertising matter. These industrial artists are to be found everywhere in manufacturing and commercial circles. The makers of wall paper, of carpets, even kitchen utensils, are ever seeking designs which will please the eye of their customers, while the average farmer goes on his way, never dreaming that the same principle lies at the basis of his own prosperity.

The man who imports horses at a great cost from Europe knows the value of "dressing" his animals for sale. The grooming and braiding the

mane and tail and the artistic use of ribbons and rosettes have much to do with big prices, and even the time horse trader, in his primitive fashion, understood the value of slicking up the wornout animal, passing him off at a big price. Spokesman Review.

"THE CALIFORNIA VALLEY."

We have long needed a name for the great central part of California included in the San Joaquin and Sacramento valleys. The official name "San Joaquin valley" and "Sacramento valley" in the first place designates two valleys what is really one, and in the second place, the word "valley" in California refers generally to a small basin immediately surrounded by hills, while this great plain is a domain of itself, including the largest part of the habitable area of the whole State. The war bureau brought out a few years ago the phrase "the great valley" which was acceptable for California use, but was not sufficiently specific for a general name. Gifford Pinchot in a speech in Sacramento Saturday hit, apparently quite unconsciously, on a better phrase. He spoke of "the California valley." That hits exactly. It is sufficiently specific and yet sufficiently general. It would instantly suggest the right idea whether used in Cape Town or in San Francisco. Used outside of California, it requires no separate qualification to show that it is the great central plain of California, rather than of some other region to which reference is had. Used in California, on the other hand, it raises no doubt which California valley is meant. There can be but one "the" California valley. And the very use of the definite article serves to preclude the misconception that this valley is only one among other California valleys. The Santa Clara valley is "a" California valley; chief, in fact, in the "a" valley class. But this valley is "the" California valley, not because it is bigger and better than the others, but because it is absolutely out of their class. "The" California valley includes most of the State and is the central and dominating fact of the State. "A" California valley, known by the name of one or another of the minor rivers, is simply one or another fragment of the remaining fraction of the State. They are fair gems upon the diadem of California. But "the" California valley is the head upon which diadem and gems are set. So suppose we take this chance phrase of Pinchot (if it was chance) as our official designation, and refer to the great plain included in the San Joaquin and Sacramento valleys as "the California valley."—Fresno Republican.

The Hanford Sentinel says that when it comes to grapes that grow on vines, Kings county takes a back seat to no one. There are now almost 114,000 trays of grapes drying on one ranch under the Kings county sun.

Raisins are said to be drying away less this year than usual. Many claim this is due to the cool weather which is over the San Joaquin valley this season.

Irrigation and Forestry

THE RIVER IMPROVEMENT ASSOCIATION.

THE River Improvement and Drainage Association of California, which has done effective work in bringing about a betterment of conditions so far as improvement of the rivers of California are concerned, is in receipt of supplemental report from Major T. G. Dabney, who headed the Dabney Commission of Engineers which thoroughly investigated the Sacramento and San Joaquin rivers in 1904, as a result of the work of the association. After speaking of the high degree of intelligence noted among the people of the California valley, Major Dabney says:

"There can be no doubt that such a class of population as we find here must succeed in any enterprise they may embark upon if only they shall put it together and in harmony, which means thorough organization as first requisite to success."

It was the thorough organization of the River Improvement and Drainage Association of California which enabled it to bring about results which are now benefiting the great valley. The Sacramento Drainage Commission, now in active operation, and declared legal and competent by the courts, is one of the results of this organization, and the mass of statistics and data relating to the rivers which has been gathered and is ready for presentation to Congress, and the further work along

this line which is in progress, shows that the association is not only organized but is thoroughly alive and active in its work for the betterment of river conditions.

After going into detail regarding the work of reclamation and drainage in the Yazoo bottom lands of the Mississippi, Major Dabney shows that it is not necessary to have the vast sum of many millions on hand before work is begun, but that in California it can be accomplished if the recommendations of the Commission of Engineers, of a joint appropriation of \$800,000 by State and Federal governments, be properly applied, and with this beginning the improvement will be permanent and progressive. It was the opinion of the Commission of Engineers that it would require a total of \$23,000,000 to reclaim the entire Sacramento valley.

The River Improvement and Drainage Association of California has worked persistently but quietly, ever since it was organized in May, 1904, and many benefits that have come to the rivers are the direct result of this work which is still going on and which is still accomplishing much good. The association is composed of men who look more to the benefit of California, than to their own personal aggrandizement, consequently the general public has heard little of the organization. It was started by a mass convention in San Francisco at which all of the prominent com-

mercial organizations of the State were represented, and since that time it has lost no opportunity to carry out the plans suggested by the Dabney Commission of Engineers which it was instrumental in having formed.

Forests regulate the flow of streams, prevent erosion and turbidity and make waste areas beautiful and productive besides insuring a source of pure water supply. Wherever natural reproduction cannot be depended upon to cover the denuded and burned-over lands of most of these watersheds, tree-planting operations must be undertaken. While the immediate object of this reforestation will be protective, timber crops will eventually be produced which will yield good profits on all such investments.

Forests and irrigation are perhaps more closely related in California than in any other part of the United States. Without water for irrigation the State's agricultural resources would be small. Water is supplied largely from melting snow in the mountains during the spring and summer; and the wooded areas protect the snow, allowing it to melt and reach the streams gradually. Any threatened diminution in the water supply is necessarily viewed with alarm by owners of orchards, vineyards, gardens, hay ranches and pastures and by all who depend so largely upon these industries.

California has an excellent State forest service, but the people are awake to the necessity of further improvement. They likewise appreciate the fire protection afforded by the

forest service officers of the government in the National Forests and the grazing regulations which prevent pasturing the woodland ranges to death. Remarkable improvements have resulted in forest conditions in the past ten years under protection of the government and the State. No one there is now heard to voice a desire to go back to the old way.

There was a little chap who refused to be a "country-weeker." He would stay in the city. No country for him.

"But why?" he was asked. "Because they have thrashin' machines out there," said he, and it's bad enough here, where it's done by hand."—National Farmer.

I would like to point out that you can never get the right kind, the best kind of labor, if you offer employment for only a few months, for no man worth anything will permanently accept a system which leaves him in idleness for half a year.—Theodore Roosevelt.

We hope ultimately to double the average yield of wheat and corn per acre; it will be a great achievement; but it is even more important to double the desirability, comfort and standing of the farmer's life.—Theodore Roosevelt.

Our Northern California representative writes:

"Vacaville has a fair peach and pear crop which has received a big price."

He also adds that the Cultivator is a favorite in Vacaville, Woodland and nearby towns.

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There are proper reasons for the low price:

First.—We buy and distribute at low wholesale prices.

Second.—This land now lies a mile or two back from the railroad where little development has been done. It is northeast of Burbank, beyond the first foothills.

Listen to this:

It is as pretty as Altadena or Sierra Madre country (elevation 1100 feet) as rich as our best valley lands. It lies on foothill slopes so that you can buy valley land at above prices and good hill land (for eucalyptus) or bee pasture immediately to your rear, at only \$22.50 an acre.

We know of no better orange or lemon land, and seriously urge your immediate investigation. Water duty, one inch to five acres at rate of one cent per inch per hour.

Send for literature. Or better, call here any day at 2 o'clock p. m. and go see the land at once. Round trip only \$1.25. No Sunday trips.

This cannot last at these prices over two or three weeks and you better come and get first choice of something as pretty and as valuable as the Southland affords.

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To compel attention to our supreme quality of family groceries, sold to consumers everywhere at wholesale rates, we reduce the price on this group and guarantee every article perfect, by refund for it, if not pleased. Only one group order to one family; holds good until Nov. 1, 1907.

CALL FOR COMBINATION NO. 81 S.

25 lbs. Pure Cane Sugar @ 2c.....	.50
25 lbs. Fancy Burbank Potatoes @ 1c....	.25
1 pint XXX Fla. Extract, Lemon or Vanilla, or 2 lbs. our celebrated 40c Mocha and Java Coffee.....	.75
2 lbs. S.C.S. 75c Tea, any flavor, or 3 lbs. our Celebrated 40c M & J Coffee....	1.00
1 jar Heinz Apple Butter.....	.50
1-lb. pail Pure Leaf Lard.....	.75
1-lb. tin Baking Powder, East-ern Pure.....	.30
10 lbs. Cream Rolled Oats.....	.50
8 bars Fairbank's Laundry Soap.....	.25
1-lb. tin Lowney Ground Chocolate.....	.35
1 package Columbus Wheat Flakes, premium.....	.25
1 bot. Eng. Worcestershire Sauce.....	.25
2 lbs. Thread Cocanut.....	.35
Total for all unchanged.....	\$6.00

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Safety Matches.....gross	.55
Press Matches.....gross	.50
Dumino Matches.....gross	.50
Sulphur Matches.....doz. blocks	.15
Corn Beef, 2-lb. tin, guaranteed, doz.	\$2.00
Rollod Oats.....3 packages for	.25
Flaked Rice.....package	.10
Toasted Corn Flakes, 1-lb. package	.12 1/2
Solid Pack Tomatoes, 1-lb. tins, doz.	.50
Welch's Grape Juice, pints, 2 for	.15
English Breakfast Tea.....pound	.45
4-lbs. Chunk Codfish.....for	.25
100-piece Decorated Dinner Set.....	9.00
30-piece Plain Dinner Set.....	2.75

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Household Department

THE GOING OF THE GREEN.

In the going of the green and the coming of the gold
The tender nature story by the mead-ow brooks is told,
The little hill discloses and the little field reveals
The gradual incarnation that across the country steals.

The green, the green is going, but the gold is marching on,
With Major General Goldenrod as vanguard of the dawn,
And every weed a blossom and every bloom a ray
Of purple or of amber in a color scheme of gray!

In the coming of the gold and the going of the green
The gentle art of harmony in nature's way is seen—
For Beauty's ever there, on unfet-tered wings it ranges,
And it's only that its color and its form and fashion changes!
—Baltimore Sun.

WHO ATE THE RING?

HAROLD was having a birthday party because he was six years old, and Aunt Helen and Grand-ma and Miss Nellie, and ever so many big people were there helping all the little people to have a splen-did time. They played games and sat in the darkened parlor to look at the magic lantern pictures till the clock struck five, and then Harold knew what was coming.

Out in the dinging-room the table was set with mamma's - prettiest china, and there were candles and flowers and bon-bons just like a grown-up party.

Harold was very anxious to have all the children see the table, so he was glad when Aunt Helen said: "Now we are going to march to the dining-room."

Miss Nellie played a bright little march, and the boys and girls formed a long line through the parlor and out on the piazza. "Just like a long white ribbon," said Grandma, for most of the girls wore white dresses and the boys white waists.

The tiny sandwiches and wee pic-kles vanished like magic and all the grown-up people were kept busy waiting on the little folks. Playing games makes one very hungry, you know, and most of the guests had been too excited to eat much dinner that day. Altogether it was a very jolly supper, and when mamma wanted to make a little speech she had to ring the tea bell several times.

"Now children," she said, "I am go-ing to pass some little cakes and one of them has a ring baked in it. You must eat them very slowly and care-fully, so some one does not swallow it. You must not break up the cakes to find the ring but just nibble away till some little boy or girl says, 'I've got the ring.'"

Aunt Helen brought in ice cream and the children ate the cakes and the cream very slowly. At last all had been eaten and still no one had said, "I've got the ring."

"That is very strange," said mam-ma. "I will ask Mary if any one took one of the cakes."

"No ma'am," said the maid posi-tively. "There has been no one but me in the dining-room since I put the cakes on the table."

"I just know I swallowed it," sobbed a little girl. "I felt it going down."

"So did I," said a tiny boy, and he had to cry too.

"There! There!" said Mrs. Clifford

much perplexed. "Two of you could not have eaten it, so don't cry."

"I feel bad, too," said another little girl. "It must have been in my cake."

I really don't know what would have happened just then if papa had'n't come in. He was so surprised to see tears at a birthday party that he had to inquire the cause, though he was in a big hurry.

"Well, well," he laughed. "I didn't know what a commotion I would cause by taking one cake. I was on my way to see a little patient who has been in bed a long time with a lame limb and I wanted to take her some of the goodies. I slipped softly in here a little while ago and took some of the nice things without dis-turbing the party a bit. Even Mary didn't see me. Now, I just wonder if little Bess Ryan isn't wearing that ring this minute?"

"O, papa, won't you go right over and see?" begged Harold.

"I hope she did get it," cried all the children and sure enough, in a few minutes, Doctor Clifford came back to tell how happy the little girl was with her treasure.—Scattered Seeds.

ALL SMILED BUT THE EDITOR.

A fine plump fowl arrived at the office of a Fleet street weekly a few days ago by parcel post. Each of the sub-editors had made up his mind to annex the bird, but these hopes were cruelly disappointed by the editor himself, who, having espied the winged one, and regarding it as one of his rightful perquisites, promptly took it home and dined off it.

The following morning a letter came to the offices from a "Constant Reader." It ran: "Dear Mr. Editor: By an early post I sent you a chicken. It has been the source of much dis-cussion among a few of us, and we have decided to let you settle the dis-pute. What we want to know is: What did it die of?"

The editor has gone on a sea voy-age to try and get over it.—Poultry Advocate.

SENTENCE SERMONS.

Sorrows give strength.
Flattery makes no friends.
Soft soap washes no hearts.
Looking at sin leads to loving it.
Love is never afraid of overwork.
It doesn't take any grit to grumble.
The angry man always lashes him-self.

Religion for reward would be sin for a raise.

A bed of roses soon wears down to the thorns.

The sure sign of a fool is that he forgets his folly.

Nothing enriches the world more than a happy face.

He who dwells on his troubles al-ways dwells in them.

A warm handshake may do more than a cold handout.

You never lose any of your sorrow by shedding sour looks.

One realizes the impotence of money when he tries to buy love.

Your conscience must be a light to you, but cannot be a law to others.

HIS FACE HIS FORTUNE.

Knicker—"Strange they didn't name the baby after its rich uncle."

Bocker—"No; he looked at it, and said he'd give them \$10,000 not to."

P & B

Ready Roofing

has stood the test of time—the test that tells. For a quarter of a cen-tury P & B Ready Roof-ing has been sold on merit—not looks. To-day it covers many of the best known struc-tures in the west.

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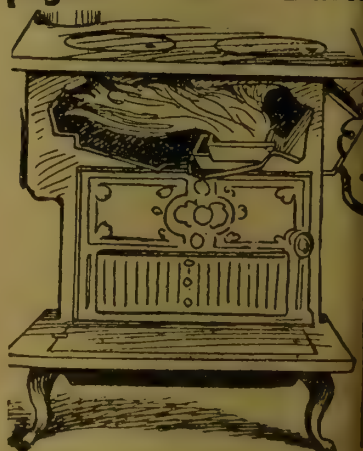
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Showing the Method of Attaching to Cook Stove

A device for using low grade distillate. Saves 40 per cent of cost of coal or city gas—let us prove it. Write for circular

Hague Domestic Oil Burner Co.
214 Winston St. Los Angeles, Ca

HOW TO HANDLE DOGS AND BABIES.

The following paragraph will be highly appreciated by the mer mother:

"A toy dog requires to be handle with as much care as a baby. Some people take them up by their legs. That is as cruel as it would be to take a baby up in the same manner." —M. A. P.

Of course, the proper way with babies is to lift them by the loose skin at the back of the neck.—Punc

HOMELY HINTS.

Washing machines are not especially modern inventions but the latest version of this labor-saving device has a patent hose attachment by which even the labor of filling the machine with water is saved. The machine is simply placed in the vicinity of a water faucet, the hose connected with the faucet and the water turned on. There is a second length of hose by which the water can be emptied.

When washing handkerchiefs put a small muslin bag containing a littleorris root in the water in which they are boiled. This will give them a faint, but agreeable scent when ironed. If borax is added to the ironing water it will give the sheer handkerchiefs a little body without making them harsh as when stiffened with starch.

Then when ironing the handkerchiefs an excellent plan is to fold all worn or ragged ones in a three-cornered shape, while those that are in perfect condition may be folded square. If the members of the household are taught the significance of the different shapes they will often be saved from the embarrassment of opening up a ragged handkerchief, which was apparently respectable when neatly folded.

A wet sheet hung in sickroom or workroom helps to cool the air.

At bedtime or before dressing, fresh in the afternoon take a warm sponge bath, which will give by reaction the most delicious sense of coolness. Cold baths in the morning invigorate and arouse the circulation.

Jardinières or bowls of fresh water set about in the different rooms and often refilled help to keep the house cool. A few drops of rose or violet water or a rose geranium leaf may be added to make a pleasant scent. This is particularly grateful in an invalid's room if the odor happens to be a favorite.

Cool all food and drink in the refrigerator, not by putting cracked ice to melt on butter, salads or relishes or in cold beverages. One can never be sure that ice is absolutely pure and very often it is not even clean, so that dangerous germs may be liberated in the melting process.

Cut down on fat in cooking while the thermometer is high. Starchy

and sweet foods also produce heat. Salads, lean meat and fruit should replace hearty dishes and rich desserts.

When the ice gives out unexpectedly, the butter may be kept hard by putting it in a deep covered bowl inside a pan of cold water. Over the cover spread a towel so that the corners will hang down into the water, and if the room is reasonably cool the butter will be firm when taken out.

RECIPES.

Potatoes in Cream.

Melt a tablespoonful of butter in a frying pan and add one pint of chopped cold boiled potatoes, seasoned with salt and pepper. Stir until evenly coated with butter, then pour in slowly a cupful of thin cream, until it is almost absorbed. A few tablespoonfuls of minced chicken or ham may be added. Cream is a very valuable and by no means extravagant article of diet, particularly for those who live in the country.

Ham and Potatoes.

Mince fine a cupful and a half of cold boiled ham, and slice thin an equal quantity of boiled potatoes. Arrange in alternate layers in an earthen dish, seasoning with salt and pepper to taste. Pour over these a pint of white sauce, sprinkle thickly with bread crumbs and brown in a hot oven.

Summer Squash.

A very young squash is called for, and if it be young enough, there will be no necessity even to pare it. Cut in very small pieces. Cut up also a slice of onion and fry brown in a little lard. Put in the squash and a little salt and pepper; fry for about ten minutes and pour in a fourth of a cupful of hot water. Cook until the squash is soft enough to mash with a spoon.

A good friend of the Cultivator sends, the following original recipes for the Household Department.

Here are two of the little trifles that help out at the table, if these are served first they can be already on the table when the family or guest enter the dining room. These two are particularly refreshing before clam or beef bouillon, or before any of the thin soups. These are not sufficiently

Do you Shave? Don't be satisfied with poor soap. Washing soap, toilet soap or even the best Castile soap are not suitable for shaving. It requires a soap made especially for the purpose to soften the beard and prevent irritation.



The thick, creamlike lather of Williams' Shaving Soap does this as nothing else will. It has been the standard for 60 years.

"The only kind that won't smart or dry on the face."

Send 2c. stamp for a TRIAL CAKE of Williams' Shaving Soap, or 4c. for a Williams' Shaving Stick, trial size, enough for 50 shaves. Address

THE J. B. WILLIAMS COMPANY

DEPARTMENT A, GLASTONBURY, CONN.

acid to serve before a vegetable puree or a heavy thick soup.

Grape Compote.

For five people: Peel twenty or thirty large grapes, cut a tart apple into fine slivers, add ten halves of canned apricots put through the colander to remove skins and strings; pour over it all half a pint of grape juice, add juice of a lemon, two teaspoons of sugar, a full teaspoon of celery salt, a pinch of cayenne pepper and a pinch of ordinary salt. Serve cold in high glasses, put a grape leaf in the plate, instead of a doily if they can be readily obtained.

Grape Compote With Cream.

For five people: Cut an apple into slivers and cover it with the juice of a lemon, a pinch of salt, a teaspoon of sugar, add twenty-five skinned grapes and five tablespoons of heavy cream, stir all together and serve in the high glasses. Chop lettuce into long slender pieces or use chicory in the glasses and put the apple and grape compote on top.—M. E. S.

CONTENTMENT.

A little farm, well-tilled—
Some sixty acres, say;
A little home, well-filled
With children, bright and gay;
A little wife, well-beloved,
To help one work and plan;
A little Paradise below—
What more need any man?

QUIT.

Saying that fate is against you.
Finding fault with the weather.
Taking offense where none is intended.
Dwelling on fancied slights and wrongs.
Talking big things and doing small ones.
Scolding and flying into a passion over trifles.
Boasting of what you can do instead of doing it.
Thinking that life is a grind, and not worth living.
Talking continually about yourself and your affairs.
Depreciating yourself and making light of your abilities.
Saying unkind things about acquaintances and friends.
Exaggerating and making mountains out of molehills.
Lamenting the past, holding on to disagreeable experiences.
Pitying yourself and bemoaning your lack of opportunities.
Comparing yourself with others to your own disadvantage.
Thinking of yourself to the exclusion of everything and everyone else.
Waiting round for chances to turn up. Go and turn them up.
Writing letters when the blood is hot, which you may regret later.

ANTIOAK LEATHER

Is manufactured by a chemical tanning process, the exclusive property of this company. It is Superior to any other and is produced as cheaply as any other leather. The method retains all the desirable qualities of the hide and destroys the undesirable; the result—a perfect leather.

Harness Made of Antioak Leather

quality and GIVES THE GREATEST VALUE FOR

Rises above competition. No other leather can compete with Antioak, because it excels in every desirable THE MONEY. The trade must have Antioak Leather.

PACIFIC IMPLEMENT COMPANY, 131 Kansas St., San Francisco, Cal.

Are agents for the Celebrated Antioak Harness. For particulars write above or to

ANTIOAK LEATHER COMPANY

Tannery and Factory Alameda and Slauson Ave.

LOS ANGELES, CALIFORNIA.

LINERS

GOATS.

FOR SALE—YOUNG PURE BLOOD SWISS Toggenburg buck. SWISS GOAT DAIRY CO., 130 Carey St., Pasadena, Cal.

POULTRY

CLEARANCE SALE—PURE BRED STOCK—White Wyandotte cockerels and pullets to make room for my S. C. White Leghorns. C. C. HOCKABOUT, Watsonville, Cal.

GRAPE VINES.

WANTED—100,000 PURPLE DAMASCUS grape vines or cuttings. Advise immediately with price. Imperial Valley Nursery, BOX 31, Imperial, Cal.

PIGEONS.

MALTESE HEN PIGEONS, ALL COLORS. Rufts, blue, silver, red, yellow. Write us your wants; correspondence a pleasure; satisfaction guaranteed. W. H. ELLIOT, 728 North Ave. 66, Los Angeles, Cal.

POULTRY FOODS.

ARMOURS BEEF SCRAPS, MEAT MEAL, and Blood Meal for poultry feeding are highest in digestible protein. If your dealer does not handle them write us direct. Circular containing formulae free. THE ARMOUR FERTILIZER WORKS, 736 H. W. Hellman Building, Los Angeles.

BOOKS.

FREE—"THE POULTRY MANUAL," BY those high authorities, F. L. Sewell and Ida E. Tilson, profusely illustrated. Send us the names of twelve persons keeping any poultry, and we will send it to you absolutely free and postage prepaid. WEST COAST STOCK FOOD CO., 813 San Fernando St., Los Angeles, Cal.

CATTLE.

FOR SALE—A TWO-YEAR-OLD JERSEY bull, registered stock, Address, F. A. McCURDY, R. F. D., Box 5, Hynes, Cal.

I HAVE A CHEAP AND SIMPLE DEVICE to prevent cows sucking themselves. Address, ELI WELLMAN, 1435 G St., San Bernardino, Cal.

TREES.

EUCALYPTUS TREES—ORDER NOW AND have your choice of any variety at any time, of any size. A. L. HURTT, San Bernardino, Cal.

FOR SALE—VALENCIA LATE AND EUREKA lemon trees, thrifty and guaranteed true to name and budded on Florida sour orange. A. D. PAXTON, Orange, Cal.

HELP WANTED.

WANTED—A NURSERYMAN WHO HAS had experience in fruit tree nurseries and understands budding and grafting. A good opening for a young, energetic man who is anxious to advance on his merits. Also a young man who is familiar with ornamental plants and greenhouse works. Address, BOX 2867, FRESNO, CAL.

WANTED—AN EXPERIENCED MAN (with wife) competent to manage an orchard and vineyard of 240 acres. Must furnish reference from last employer. Pleasant home supplied. For particulars, address M. W. SHIDY, Acampo, Cal.

FERTILIZER AGENT WANTED—LOCAL agent to sell Swift's Pure Animal Fertilizer; also nitrate of soda; sulphate of potash, guano, etc. Inquire of CAROL B. SMITH, of Redlands, for particulars.

ENGINES.

FOR SALE—A BARGAIN—30-H. P. WHITE & Middleton engine as good as new. Have no further use for same. 119 BRUNO ST., Los Angeles.

FOR SALE—50-H. P. GASOLINE PUMPING engine at a low price. Call or write. N. W. cor. MAIN AND BRUNO STS., Los Angeles.

FOR SALE—10x12x10 LAIDLAW-DUNN-GORDON air compressor at a snap. 943 NORTH MAIN ST., Los Angeles.

EGGS FOR HATCHING.

EGGS FROM MY PRIZE WINNING Barred Rocks; won all special and 13 regular prizes on Barred Rocks at late Los Angeles show. Eggs from best pens, \$2 and \$3 per 15; \$10 per 100. Can furnish any quantity. Also offer extra bargains in breeding stock. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

PRIZE BLACK LANGSHANS, SHORT legs, heavy bodies, unexcelled egg-producers. Choice 1907 cockerels, \$3.00; eggs, \$2.00 per 15; \$10.00 per 100; delivery of eggs Sept. 10th. Indian Runner ducks' eggs and stock for sale. CLYDE J. MOSS, Corona, Cal.

LAND.

JUBILEE POULTRY FARM—80 ACRES, well improved; 1000 pullets and hens; 2 horses, cow, farming implements, vehicles, 3 large Jubilee incubators and brooders; good roads, good markets; fine for vegetables, berries, etc. Telephone in house; hot and cold water to bath; water piped to all parts of the place; 6000-gallon tank; 4-H. P. Fairbanks-Morse engine, which runs pumping plant, vegetable cutter, shell and grain crusher, washing machine, wringer, churn, grindstone. Plenty good water. \$7500 takes everything. Easy terms, or will trade for 10, 15, 20 acres improved land in Riverside Co.; close to Riverside preferred. WM. MANTZ, Santa Maria, Cal.

FRUIT FARMS NEAR THRIVING CITY now yielding \$200 to \$1000 net per acre. LEWISTON-CLARKSTON Idaho Wash.

LOW ALTITUDE—Irrigated lands on easy terms in this long established fruit colony. Water piped to every tract. Just write for pamphlet 119, or send 15c for panoramic photograph. 8x36 inches, post paid in tube. Address, DEVELOPMENT LEAGUE, Lewiston, Idaho, or Clarkston, Washington.

IRRIGATED ALFALFA, SUGAR BEET and grain land, \$18 to \$25 an acre. All the water you wish guaranteed by Canadian Government for 50c an acre a year. Good markets. Highest crops. W. R. GILSON, 411 S. Main St., Los Angeles.

The Produce Markets

Los Angeles Markets

LOS ANGELES, Oct. 2, 1907.

Butter.

On the butter situation a local paper says:

"The butter market is in a very unsettled state. There are numerous rumors of changes that are to occur among the large butter interests in the near future, and if they come to pass the entire butter supply of Los Angeles will be controlled by one great trust with the exception of one more or less important firm. Undoubtedly this would mean the highest priced butter the city has ever known."

Creamery extra per roll65@67½
Dairy.....48
Cooking.....45@47
Eastern.....53@57½

Cheese.

Cal. Young America, per lb.....19
Hand20
California Anchor.....18
Northern fresh.....17@17½
Eastern.....17½@18
Imported Swiss.....32
Tulare flats.....18
Domestic Swiss.....21@22

Eggs and Poultry.

Eggs have advanced a cent for best grades, but not as much as anticipated by those who have watched the Northern market. Fresh Eastern, especially have taken a firmer position and now command close up to local candled. This looks as if the speculator had possession of the market and producers are not in it.

Eggs local candled.....38@39
Eggs case count.....34@37
Fresh Eastern.....35
Eastern storage.....25@27
Hens per lb.....14
Young roosters per lb.....14
Fryers.....15
Broilers per lb.....16½
Old Roosters.....8
Turkeys.....17@18
Geese.....12
Ducks.....11
Squabs.....1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 lbs.....7½@7¾
Prime steers4½@4¾
Heifers.....3¾@4¼
Calves per lb.....5
Sheep, ewes, per head.....4.75@5.25
Lambs per head.....4.50
Wethers.....5.50

Potatoes.

The claim is made that potatoes are on the decline and will continue there for some time. There is, however, danger of speculators bearing the market for speculative purposes so that producers will do well not to become panicky. However, it is true that stocks are increasing.

Highlands.....1.75
Early Rose.....2.00
White.....1.90@2.00
Local Burbanks1.75@1.85
Salinas.....1.90@2.00
Sweet potatoes per lb.....1¼@2

Onions.

Silverskins per ctl.....2.50
Australians.....2.35
Yellow Danvers.....2.00
Garlic.....8

Vegetables.

Beets per doz.....35@40
Bell peppers green lb.....2
Beans wax.....5
Beans Limas per lb.....4@5
Beans green.....3
Cabbage sack.....75
Celery per doz.....40@75
Chili peppers green lb......02
Cucumbers per box.....15@25
Pickling.....50
Corn per box.....35
Cauliflower.....60@90
Carrots per doz.....30@40
Eggplant per lb......2
Green onions doz bunches.....10@30
Lettuce per crate.....40@75
Pie Pumpkins......1½
Peas sugar per lb.....5@6
Okra per lb.....5@6
Rhubarb per box.....1.35@1.50
Radishes per doz.....15@20
Spinach per doz.....10@15
Summer squash crate.....25@35
Turnips doz bunches.....40
Tomatoes per box.....25@35
Water Cress per hundred.....35

Citrus Fruits.

Valencias.....2.25@4.50
Grapefruit seedless.....3.25
Grapefruit seedlings.....1.75@2.00
Lemons fancy.....3.75@4.50
Lemons choice.....2.00@2.50

Fresh Fruits.

Bellefleurs.....1.25@1.75
Gravenstein.....1.50
Alexandria.....1.00@1.50
Cooking......50@1.00
Blackberries......7@8

Cantaloupes crates2.00@2.25
Casaba per crate.....1.25@2.00
Figs black per lb......5@7
Figs white......5@7
Guavas......4
Grapes Isabelas per box.....1.25
Black Hamburgs......65@85
Rose Peru......65
Muscats......75@85
Tokay1.15
Cornichons.....1.25
Huckleberries lb11
Logans......12@15
Pears2.25
Peaches per box1.00@1.25
Frech prunes65@75
Hungarian prunes.....1.10
Pomegranates per box.....1.25
Persimons......8
Quinces......90@1.00
Raspberries......13@15
Strawberries......2@4
Watermelons per lb.....1@1¼

Dried Fruits.

Evap. apples fy per lb8½@9
Apricots.....19@21
Peaches.....10@13
Pears.....11½@12½
Nectarines......11@12
Prunes3½@5½
Plums11½@12½

Beans, Dried

There is no change to speak of in the quotations of last week.

Limas per ctl.....4.50@5.75
Pink No. 1.....3.25@3.50
Lady Washington.....3.25@3.45
Small White.....3.25@3.40
Black eyes.....4.50@4.75
Garvanzas.....5.25@5.75
Lentils.....12@12½

Honey

The prices we give are those at which the jobber sells to the grocer in small lots. The producer should take from this one cent a pound commission and freight to Los Angeles, and there will remain the net returns to him.

Extracted white......6@7½
Light Amber.....5@6
Comb water white 1-lb. fms.....12@16
Light Amber.....11@13

Nuts.

Almonds per lb.....17@18
Peanuts Virginia.....8½@9
Peanuts California.....6@7½
Walnuts No. 1 S S.....15
No. 2.....12

Hay.

Barley No. 1.....14.00@15.00
Barley No. 2.....12.00@13.00
Alfalfa northern per ton.....14.00@15.00
Alfalfa new local.....15.00@16.00
Plain oat No. 1 new.....12.00@15.00
Wheat No. 1.....15

Grain.

Wheat new per cwt.....1.70
Barley.....1.45
Corn Eastern sacked.....1.70

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn1.75
Shorts.....1.45
Bran.....1.30
Egyptian corn.....1.65
Oil cake meal.....2.50
Feed meal.....1.80
Rolled barley.....1.50
Rolled barley per ton.....30.00
Kaffir Corn.....1.65

It's the multitude of little things that make up the sum of living, and the way they are done makes life either pleasant or unhappy. Shaving is a small thing and yet if it is not done properly it is the cause of a great deal of discomfort, and, in cases of extreme carelessness—positive pain and danger. It stands to reason that a soap which will bite resin and grease off the kitchen floor, is not the sort of thing to use on the face. Those who use it for the latter should not be surprised at having a burning, itching face—William's Shaving Soap is made for one purpose—Shaving. It is a guarantee of comfort and safety.

By sending a 2c stamp to the manufacturers, the J. B. Williams Co., Glasstonbury, Conn., to pay postage, you can obtain a free sample.

VALUABLE.

I find the Cultivator a valuable paper.—E. A. Connell, Watsonville.

A sheep owner at Pomeroy, Washington, finding himself unable to secure cars to transport his sheep to market has arranged with a farmer to keep fourteen hundred head until spring and for the service gives the spring clip of wool.

San Francisco Markets

SAN FRANCISCO, Oct. 1, 1907

Butter.

Butter is in very heavy receipt; the market has absorbed it well, and even advanced a cent since last week. Prevailing sentiment is that no decline will occur.

California extras per lb.....
California firsts.....
California seconds.....
California thirds.....
Eastern extras.....
Storage Cal ex.....

Cheese.

California young American fy.....
California flats fy.....
Eastern fy.....
Oregon fancy.....

Eggs and Poultry.

Eggs are light in receipt and making the up grade. Even at quotations do not slow the demand and all offerings of strictly fresh quickly absorbed.

Fresh ranch eggs.....
Eggs firsts per doz.....
Eggs seconds per doz.....
Eggs thirds.....
Storage Cal extra.....
Eastern firsts.....
Eastern selected.....

The poultry market is rather weak owing to large receipts of Eastern stock. Market is clean of ducks and geese.

Hens per doz.....4.50@5
Hens large.....
Young roosters.....6.00@7
Old roosters.....4.00@6
Fryers per doz.....4.50@6
Broilers per doz.....3.50@4
Geese per pair.....1.75@2
Ducks young.....4.00@4
Turkeys per lb......20@
Pigeons.....

Live Stock.

Steers No. 1.....8@8½
Do second quality.....7@7½
No. 1 cows and heifers.....6½@7
Hogs 80 to 200 lbs.....6½@7
Hogs 200 to 300 lbs.....7@7½
Calves per lb......4½@
Lambs, yearlings.....6@6½
Wethers, No. 1.....
Ewes, No. 1.....

Potatoes

Sweet potatoes are easy to wear with Saturday's carry-over yet hand. Burbanks were in heavy receipt and of good quality and size, but are taken up slowly by the trade.

River whites.....1.00@1.10
Salinas.....1.40@1.50
Sweets.....1.75@2

Vegetables.

The vegetable market dragged yesterday and a large carry-over of many varieties made trading weak. Buyers were slow to make offers on the unsalable stock and fresh supplies arrived too late in the day to serve the early buyers. Tomatoes were plentiful, but the large carry-over Saturday, was in poor condition and dealers shaded quotations accordingly. Green peppers are coming in steadily and meet with a better call than previously. There is no marked change in cucumbers and onions seem to be moving slowly.

Asparagus.....50@
Cucumbers per box.....50@
Corn per sack.....1.50@2
Chili peppers per box.....40@
Bell peppers per box.....30@
Egg plant per box.....50@
Green peas per lb.....30@
Squash per box.....40@
Tomatoes California.....50@
String beans.....20@
Wax beans.....1½@
Garlic.....30@
Marrowfat squash per ton.....18.00@15
Hubbard squash per ton.....10.00@16

Onions.

Onions Br Australia per ctl.....3
Yellow.....1.40@1.75

Citrus Fruits.

Valencias.....3.00@4.50
Grapefruit seedless.....2.50@4.50
Lemons.....4.00@4.50
Limes.....6.00@8.00

Fresh Fruits.

Fruits quiet, supplies coming slowly.

Varieties of orchard fruits are gradually falling off as the season grows late and business is confined to the more staple kinds. Peaches continue to arrive from Oregon in small, choice lots, with buyers few. Figs were in heavy receipt and weak on account of their perishable condition. Seedless grapes are in especially heavy receipt. Bartlett pears are falling off in receipt and the second crop is well disposed of. Nutmegs were poor seller yesterday on account of their undesirable quality. Quinces were in moderately large quantity, with trading weak.

Apples Gravenstein.....1.50@1.75
Apples small stock.....40@75
Crab apples.....85@1.00
Blackberries per chest.....4.00@5.50
Figs one layer.....40@75
Melons per crate.....60@1.00

Figs two layers..	85@1.00
Grapes per crate..	75@1.50
Huckleberries..	7@11
Pears cooking..	60@1.25
Pomegranates per box..	75@1.25
Plums per box..	50@1.00
Peaches per box..	1.00@1.25
Bartletts..	75@2.25
Quinces per box..	75@1.00
Raspberries per chest..	7.00@10.00
Strawberries per chest..	6.00@10.00
Watermelons per doz..	1.00@2.25

Dried Fruits.

Apples (evap.)	10@10½
Apricots per lb new..	18@22
Figs white..	3½@5
Nectarines..	12½@15
Plums pitted..	10@12
Prunes 4 sizes..	4@5½
Peaches..	10@13
Pears..	5½@11
Prunes 4 size bag basis	4½@5

RAISINS—F. O. B. price for 1907, November shipment: Fancy Seeded, 10-oz. Cartons, 8½@9c per lb.; do, 10-oz., 7½@7½c; Choice Seeded, 10-oz. Cartons, 8½@8½c; do, 12-oz., 6½@6½c; Loose Muscatels, standard 4-crown, 7½@7½c; do, 3-crown, 7c; 2-crown, 6½c; Seedless Sultanas, unbleached, 7½@7c; do, standard, 6½c@6½c; Seedless Thompson, unbleached, 6½@7c; Imperial Clusters, 3-crown, \$3 per box; Dehesa Clusters, 5-crown, \$2.50; Fancy Clusters, 4-crown, \$2 London Layers, 3-crown, \$1.60; 2-crown, \$1.50.	
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Beans, Dried.

Limas..	5.00@5.50
Pink..	2.95@3.00
Small White..	3.10@3.25
Large white..	3.00@3.10
Lady Washington..	2.30@2.85
Black eyes..	4.00@4.25
Red kidneys..	3.40@3.50
Bayo..	3.15@3.25

Hops.

Hops new future delivery per lb..	7@9
Hops old fancy..	5@7½

Nuts.

Almonds new..	16½@17½
Peanuts California..	6½@7½
Walnuts	14@17

Honey

Clear white comb..	16@17
Amber	12@15
Extracted..	7½
Beeswax No 1 per lb	26@28

Hay.

Alfalfa local..	12.00@17.00
Tame oat..	15.00@16.00
Wild oat..	10.00@14.00
Wheat No 1 new..	19.00@20.00

Grain.

Wheat No. 1..	1.60@1.62½
Barley No 1..	1.40@1.42½
Corn small yellow..	1.65@1.67½
Corn large yellow..	1.55@1.60
Oats white..	1.47½@1.57½
Oats red..	1.65@1.90

Feed Stuff.

Bran per ton..	20.00@22.50
Straw per bale..	50@90
Feed cornmeal per ton	33.50@35.00
Cracked corn per ton..	34.00@36.00
Oil cake meal per ton..	38.50@40.00
Cocoanut cake, per ton	25.00@26.00
Midlings..	27.50@30.00

Citrus Market

LOS ANGELES, Oct. 2, 1907.

With nearly all packing houses closed and with little fruit on trees interest in citrus markets is nil.

Lemons continue a favorite, and are commanding good prices.

Citrus Shipments.

Total to date this season, 27,263 cars, of which 3332 cars were lemons. Total to same date last season, 25,583 cars, of which 3570 were lemons.

NEW YORK, Oct. 1.—The market is

AUCTION

21 Fine Holstein Cows

AT 10 A. M.

TUESDAY OCT. 8th

On the old Welch Ranch, on Long Beach Road, three-fourths of a mile South of

COMPTON

Take Long Beach Electric Car to Olive St. Teams waiting

19 Head Fine Milk Cows, large young Holsteins mostly fresh by day of sale, large milkers, in fact one of the Finest Herds of Dairy Cows in Los Angeles county.

1 Yearling Holstein Heifer, 1 Holstein Heifer 8 mos.

One Holstein Bull

Persons looking for First Class Dairy Stock should not miss this Sale

Terms: A credit of 12 months will be given with note and approved security, at seven per cent interest.

Free Lunch at Noon.

I also have one silo 30x13 feet which I will sell at private sale either before or on day of sale.

Mr. Hart is retiring from the dairy business and closing out his entire herd and will positively sell every animal without limit.

POSITIVELY NO RESERVE.

J. M. HART, Owner.

RHOADES & RHOADES, Auctioneers.
Office 730 S. Spring St., Los Angeles.

very strong and the weather is clear and cool. Two cars of Valencias sold.

VALENCIAS—

Seal fy Asuza Foothill Assn..	\$7.05
Green Crown st Azusa-Covina-	
Glendora Ft Ex Azusa..	3.70
Planet ch Sunset Ft Ex Orange..	5.55
Red Shield xch Azusa-Covina-	
Glendora Ft Ex Azusa..	4.70

BOSTON, Oct. 1.—The market is strong on Valencias and the weather is cold. One car sold and four on track.

VALENCIAS—

Pomona xch San Anto Ft Ex Po	4.30
Blue C fy Covina Ft Ex Covina..	4.95
Red C xch Covina Ft Ex Covina..	5.00

NEW YORK, Sept. 30.—The Valencia market is very strong. Weather cool and cloudy. Four cars sold.

VALENCIAS—

Old Mission ch Chapmans' Fulln..	\$6.45
Golden Eagle st Chapmans' Fulln	5.25
Pointer ch A C G Azusa..	5.55
Victory xch C C U Dist No 7....	4.20
El Toro C C U Dist No 7.....	3.65
Cerrito O Gr C Assn.....	5.85
Swastika O Gr C Assn.....	3.30

GRAPEFRUIT—

Cerrito, halves, \$2.20; Old Mission, ch,	
\$3.90; Cerrito, halves, \$2.70.	

BOSTON, Sept. 30.—The market remains unchanged and the weather is cold. One car sold and five on track.

VALENCIAS—

Stag fancy A C G Ft Ex Azusa..	5.00
Pointer ch A C G Ft Ex Azusa..	3.95

PHILADELPHIA, Sept. 30.—The market is active and the weather is cool. Two Valencias sold; no arrivals.

VALENCIAS—

Stag fancy A C G Ft Ex Glendora	5.50
Hunter st. A C G Ft Ex Glendora	4.10

PITTSBURG, Sept. 30.—The market is active. One car sold.

VALENCIAS—

Blue C fy Covina Ft Ex Covina..	5.50
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NEW INCUBATOR FACTORY.

Machinery and wood working tools are now being installed in the new factory of the McClanahan Incubator Company, of Los Angeles. This company's business has increased from year to year to such an extent that it is necessary at the present time to employ a good many men to work on the brooders alone. The new incubator will be known as the Success Incubator, as a line of brooders have been made by this company of the same name for some time.

The first machines made by this company were all hand-made and were entered at the Oregon State Fair in the latter part of September and walked away with the blue ribbon.

The first machine to be made will be twenty of the big 600-egg size machines to be used by the Pioneer Hatchery Company, 711 South Main St. A stock of all the machines and brooders will be ready soon, and catalog giving description, etc., will be mailed free to those who ask for it. The prices will be lower than any other factories on the Pacific Coast.

Wala Wala, Washington, claims the largest peaches in the whole country. One grower marketed three boxes which averaged over a pound each, with a circumference of thirteen inches each.

A movement is on foot to form a new reclamation district of about eight thousand acres of land in Sutter and Sacramento counties lying along the Feather and Sacramento rivers.

Ninety-five million bushels of wheat. This is the official estimate of the 1907 crop in Canada's three great wheat-growing provinces of Manitoba, Saskatchewan and Alberta.

SHOULDER GALLS.

During this month and next look carefully to your horses' shoulders, for they are liable to become sore from collar galls. Hot weather, heavy work and ill-fitting collars will surely produce sore shoulders, unless the horses are watched closely, their shoulders washed at noon and at night and the collars and pads cleaned of the sweat which has dried on them. The horse's shoulder should be washed every night after the harness is removed, whether it is sore or not. Galls are caused by a dirty pad coming in contact with a dirty shoulder. If both are kept clean there is but little danger to the shoulder becoming galled. If the shoulder galls, the animals should be turned into the pasture and the gall washed once a day with warm water to which is added a little carbolic acid.

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Milwaukee can be proud to be the home of the Mayer Boot and Shoe Company. Next to the fame of Milwaukee's great breweries comes the country-wide reputation of Mayer boots and shoes. Mayer shoes have won their reputation on quality. The Mayer Boot and Shoe Company has persistently refused to lower quality to enable it to sell shoes at a lower price, and by maintaining this honest and superior quality, and keeping in the front ranks in style, it has gradually won the confidence of thousands of shoe wearers who purchase Mayer-made shoes year after year—who look at the Mayer trade mark as positive evidence of style, comfort and good wearing quality.

This quality policy so consistently pursued has resulted in healthful and rapid growth. In the twenty-five years since the Mayer Shoe Company began operations it has outgrown six factories. And in the last six months, during which the last factory annex in Milwaukee has been building, the volume of business has so greatly increased that even with this new annex the output lags far behind the demand.

Including the new Seattle factory, which has just been completed, the total capacity of the Mayer Boot and Shoe Company exceeds 9000 pairs a day. This remarkable output, together with the inability of the Mayer Company to build factories fast enough to keep pace with the demand, is most convincing evidence of the high quality of Mayer footwear.

In the first place the Mayer shoes are sensible. While good style is an important factor, comfort is always a greater consideration; while conspicuous extremes are avoided, refined dressiness is always secured. The exceptional durability and splendid wearing quality of Mayer shoes are due to the use of only the best leather and the employment of only the most experienced and skillful workmen. From the wide range of styles you are certain to find one which pleases. The best known brands are the "Honorbilt" fine shoe for men; the "Leading Lady" fine shoes; the "Martha Washington" Comfort Shoes; "Special Merit" school shoes, and the "Yerma" cushion shoes. If you want a dress shoe, a work shoe, or a shoe dressy enough for general use, yet sturdy enough for rough usage, it is our belief that you can't do better than to ask your dealer to supply you with one of the Mayer brands.

While the acreage of beans in San Joaquin county is less by three thousand and acres than last year, it is claimed the yield will be nearly up to that of 1906.



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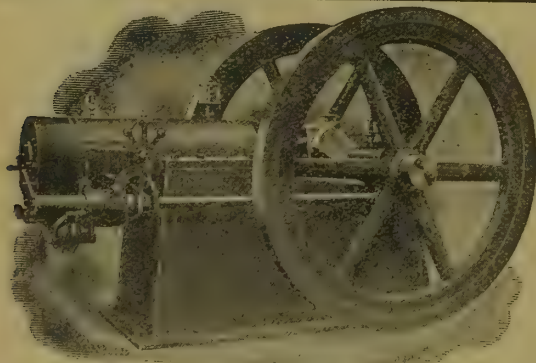
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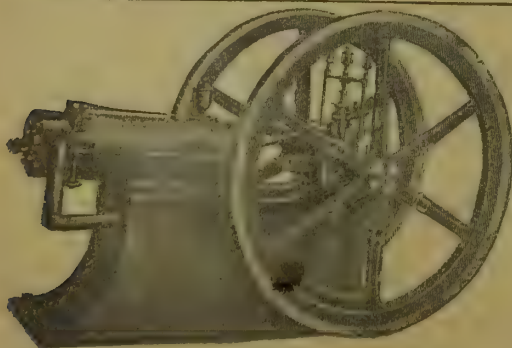
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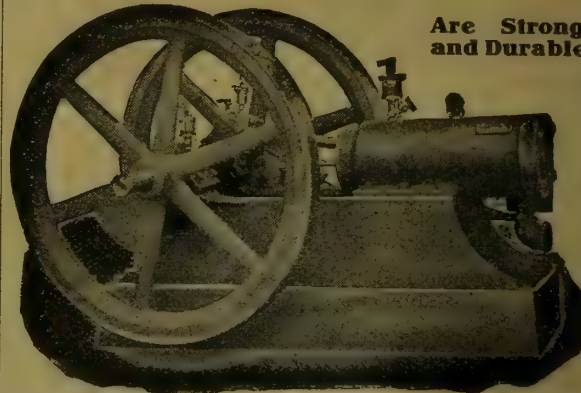
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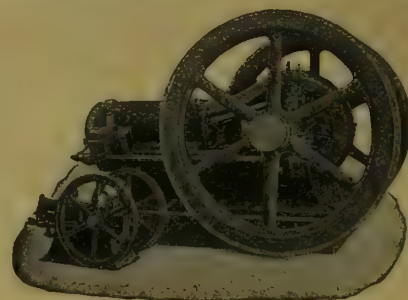
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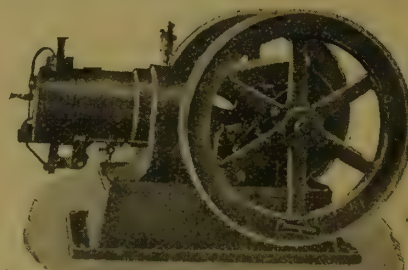
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California Cultivator

Los Angeles

October 10, 1907

San Francisco

The Date Palm in California



Courtesy Out West

THE growing of dates in California is yet in the experimental stage, but the experiment is proving so interesting that many are taking an interest which is not passive by any means. In fact, it is so active that outside the experimental plantings of the government there are many private holdings which are promising much.

Regarding the government planting at Mecca, B. G. Johnson, the superintendent in charge says:

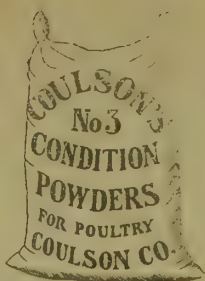
At this station there are planted twelve acres of date palm trees from six importations, from several date growing countries. The greatest number of trees planted are from Algeria, Tunis, Egypt and the Persian gulf region. There have been all degrees of success, depending upon the vigor of the varieties, the distance transported, the care given on the trip and after having been planted. While not bearing commercial quantities of fruit until about five years old, a number of trees have borne fruit when two years old. This year there are a number of both two and three-year-old trees in fruiting.

Three men are now employed at the station. When the orchard was established three years ago, May, 1904, only one man was employed.

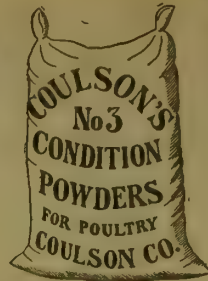
There are many sections of California where the date palm flourishes, especially in the southern part of the State where the rainfall is light. It will flourish in the Mojave desert, Death valley, in the San Joaquin valley and in the Sacramento valley. But humid sections in these valleys should not be selected, as the fruit will not

ripen in a humid climate, especially such as that of Florida, though it is warm enough there for the tree. It will also flourish at Keeler and at Barstow. Ordinarily the trees are planted thirty feet distant from each other, though some are planted at twenty-five or even twenty feet apart. Its yield depends upon the soil and the climate. Under ordinary conditions it bears within four years after the seed is planted and in a year or two more it produces dates in paying quantities—from 300 to 400 pounds or more a year. It is long lived and will bear for a century or two centuries, and even longer. About 40 to 50 per cent is sugar. The Arab sweet date is about 60 per cent sugar.

The date plant differs from an ordinary fruit tree as to the water supply and the climate. There is no other tree like it. Heat is necessary from May to November, the time of fruiting. The mean temperature should be about 75 degrees, and in June, July, August it should be 80 degrees. Where late varieties are desired the temperature should be at least 90 degrees during these three months. This is found in Death valley, the Mojave desert, the Colorado desert, the Volcanic springs and the Salton sea section. There is a thermal belt along the foothills of the Sierra Nevada, adjoining the interior valley region, where the date could be profitably grown, and for commercial purposes. The date is not strictly a desert plant, as is shown by its being cultivated at Berkeley, Fresno, Pomona and other sections of semi-arid California. While its leaves are adapted to stand the driest of climates, its roots must have water, but not as much water as ordinary plants, however.



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10-lb Package, \$1.50; 25-lb Package \$3.25;
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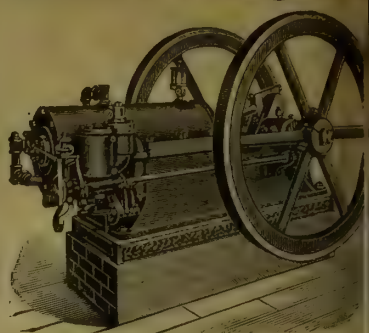
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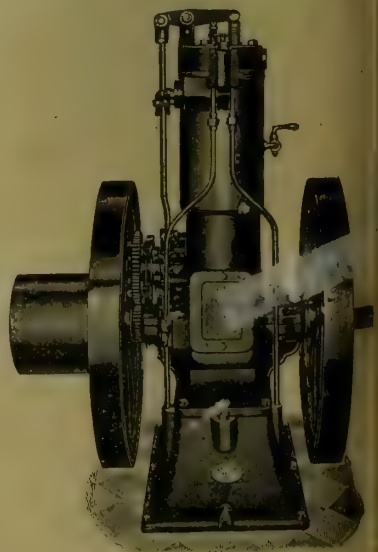
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California Cultivator

Vol. XXIX—No 14

Los Angeles, California, Thursday, October 10, 1907

Subscription \$1 a Year

Common Schools and the Farm Youth

Prof. L. H. Bailey, Director of the College of Agriculture
of Cornell University, Writes of Present
Day Demands in Common School Work

A series of papers in the Century Magazine Prof Bailey is giving some excellent reasons for certain changes in our educational system, especially with reference to common schools of the country.

Regarding the problem facing the country schools, he says:

"Sympathy with any kind of effort or occupation, and good preparation for engaging in it, are matters of slow and long-continued growth. This growth should begin in childhood and should be aided by the home and the school. The country school carries a greater responsibility than the city school, in proportion to its advantages, for it is charged not only with its own country problems, but with the training of many persons who swell the population of cities. The country school is within the sphere of a very definite series of life occupations."

As to the objects of nature study, the writer includes:

"The end of nature study is to develop spiritual sensitiveness and insight; therefore, it must not deal with mere objects and phenomena. In this it differs from the prevailing conception of science teaching. I think that I catch this note in the syllabi and books that I have examined. His attitude accepts phenomena as real, and regards what we call 'progress' to be really such. It accepts the world as good. It does not deprecate the need and importance of introspection, it regards introspection and meditation as exercises for a mature and maturing mind, and holds that such exercise is most effective when most closely related to experience. Nature study is not merely objective if it is developed in the way in which it should be developed. If we develop first the meditative, passive and subjective habit, then we are oriental; but the spirit of the West is to live actively with the world."

Results To Be Expected.

Persons are always asking for the results of nature study work, as if they expect that statistics can be given in reply. They want to know how many teachers are teaching it, how many children are interested in it, how many school gardens there are, how many syllabi are in use, how many pupils are enrolled and the like. All this is well in its way, and is important, though the results of nature study are not to be measured by these formal means, but, rather, by a general elevation in the mode and tone of the school, and in the point of view of the community. The school must be reorganized to meet the child's needs. It must be simplified. Subject must be taken out, rather than put in; whatever subjects remain, the nature study philosophy and point of view must run through them all, for it is a fundamental educational means. Most of the criticisms of nature study are made against what are thought to be faulty methods here and there. It may be a question whether these criticised methods really are faulty; but even if they are, and if all the work has been inadequate, nevertheless the nature study movement will abide. It is one expression of the new education.

If this experience teaching is so fundamental, we must not look for results quickly. Spiritual movements proceed slowly. It may require a

generation yet to get us out of the habit of teaching merely the names of things.

It has been said that the current movement toward nature study is misdirected, since all human activities, of whatever kind, proceed from experience. Language, for example, is only a means of expressing experience; therefore, Greek study is nature study. However, the evolution of a language is the experience of a race; what we now argue for is the using of the experience of the individual. Of course, no one would advise against the use of race experience, as expressed in language and literature; but education should begin with the person, which is the concrete.

It is a fallacy to consider that nature study must be merely correlated with the present school subjects except as a means of starting and establishing its spirit. Nature study teaching is a way of conducting the school work so that it will have personal application and meaning.

The school must be given a new purpose or expression. Our school systems are now really developed for the few—for those who are good "scholars." Other pupils are expected to emulate these few, whereas they may have a wholly different order of ability. When education becomes personal, all this will change. Well developed experience with one's normal environment is nature study; it lies deeper than the adding of a subject to the course, deeper than merely to be "correlated with." It is quite the opposite of "correlation with," as if it were applied from the outside; it is giving direction to, making application of.

Application to the Country School.

Just now nature study is the stepping-stone to the introduction of agricultural studies. This is an indication that it is a means of connecting the school with the real life and activity of the community; but nature study is a means of preparing the pupil for all kinds of school work and for all places, as well as for agriculture and for the country. It is a redirecting agency. In time, as the schools develop, we shall find that we shall not need to introduce agriculture as a separate study, even in rural districts, at least not below the high school, for in such districts the whole school effort will have an agricultural, country life or nature study trend.

Lest I be misunderstood, I will say at once that I am not opposed to the introduction of agriculture as a separate study into the elementary rural school. In fact, such introduction may be the very best means of bringing about the deeper and more fundamental redirecting of the school that is essential to its full effectiveness. I look on the separate teaching of agriculture as a present means to an end. We should not lose sight of the fact, however, that the schools are actually being redirected much more rapidly than those not engaged in school work may be aware.

In time, the beginning schools will probably not teach any of the present-day subjects under their present names; but this will adjust itself into the natural course of evolution. The greatest need is to reorganize the teaching of the subjects that are already in the country schools. Geography, for example, will deal first with the local

country and its affairs. Of course, the methods have changed greatly in a generation; but the old geography was largely of the ballooning variety, beginning with the universe and descending through the solar system to the earth.

All this is rapidly changing. If the school is in the open country, it may give attention to fields, birds, soils, brooks, forests, crops, roads, farm animals, hamlets and homes. Geography can be so taught in the schools as, in ten years to start a revolution in the agriculture of any commonwealth.

Arithmetic needs redirecting in the same spirit. The beginnings of a new motive in it are now becoming prominent. The principles of number are the same wherever taught, but practice problems may have local application. These problems have heretofore dealt with theoretical, urban, middleman, copartnership subjects and sometimes have been mere numerical puzzles. It is significant that the arithmetic problems that the country child takes home do not interest the old folks. This is only because the problems mean nothing to them. Many of the problems of the farmer are numerical—soil moisture, fertility, questions, feeding rations, spraying, cost of labor and of producing crops, and all the manner of accounts. Numbers can be taught in the schools as, in ten years, to start a revolution in the agriculture of any commonwealth.

Reading needs similar reorganization. This is everywhere recognized, and distinct progress is being made. It is not desirable to eliminate the customary types of literature of the masters; but something may be added to make the reading vital and applicable. It is not difficult now to find good pieces of English composition that deal with the customary practices and affairs of the open country, and that point the way to better things. Reading and spelling can be so taught as, in ten years, to start a revolution in the agriculture of any commonwealth.

Touches Country Life.

Even manual training needs new direction as it touches country life. It may not be necessary to eliminate the formal exercises of model work and weaving and the like, but some of the practical problems of the home and farm may be added. How to make a garden, to lay out paths, make fences and labels, are manual training problems. How to saw a board off straight, to drive a nail, to whittle a peg, to make a tooth for a hand hayrake, to repair a hoe, to sharpen a saw, to paint a fence, to hang a gate, to adjust a plowpoint, to mend a strap, to prune an apple tree, to harness a horse—the problems are bewildering from their very number. Manual training can be taught in the schools that are equipped for it as, in ten years, to start a revolution in the agriculture of any commonwealth.

Better School Buildings.

All such training as this will call for a new purpose in the school building. The present country school building is a structure in which children sit to study books and recite from them. It should also be a place in which children can work with their hands. Every school building should have a laboratory room in which there may be a few plants growing in the windows,

Concluded on Page 348

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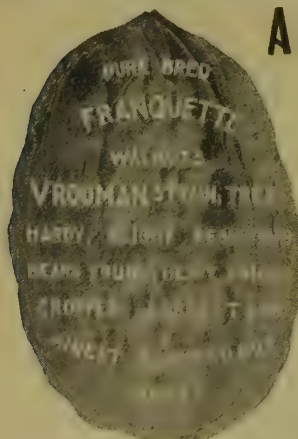
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THE ACTION OF MANURE.

MANURE is the most valuable source of nitrogen. When fresh, the nitrogen it contains is mostly insoluble, and hence not available to plants. But the manure decomposes by standing; that is, the bacteria devour it and set free its ammonia gas, which contains the nitrogen. The ammonia gas is attacked by another kind of bacteria, and is converted into nitrous acid. Then a third kind, which kind cannot begin to work until the ammonia has disappeared, convert the nitrous acid and the nitrites into nitrates, the form in which plants can use the nitrogen. The ammonia gas may escape from the manure into the air and the nitrogen will be lost unless soil is mixed with decaying manure, for soil has a great power of absorbing ammonia, which is then changed into soluble compounds of nitrogen. If air is admitted too freely into the compost, the gases will form too rapidly and will escape. If air is excluded, the decomposition ceases. Water and air in proper quantities produce the desirable rate of decomposition in this fertilizer, which is the best for general purposes.

Prof. Hopkins, of the Illinois Experiment Station, says: "The plant food in a ton of manure varies greatly with the exposure it has suffered under the weather conditions. If ordinary fresh farm manure contains ten pounds of nitrogen, two pounds of phosphorus and ten pounds of potassium to the ton of manure, with a dry matter basis of twenty-five per cent. and seventy-five per cent. water, the manure that will result from holding such fresh manure until it becomes more or less rotted will vary greatly in composition, depending upon the conditions to which it is subjected. If the fresh manure is exposed for a few weeks to the leaching of heavy rains, half of the nitrogen and potassium may be leached out, while smaller losses of phosphorus and dry matter occur, so that a ton of the resulting manure, in which the urine (which usually contains about half of the nitrogen and potassium) has been replaced by rain water, may contain only six pounds of nitrogen, two pounds of phosphorus and six pounds of potassium. This difference of four pounds each of nitrogen and potassium does not represent the total loss, because if the pile contained ten tons of fresh manure there will be left perhaps only eight tons of the leached manure, even with the same percentages of dry matter and water.

"If however, the pile of manure suffers less from leaching, but more from fermentation and heating for several months, the loss of dry matter or total weight will be great and the loss of nitrogen considerable, while the loss of phosphorus and potassium will be less. Thus, after six months of such conditions, the ten tons of manure, with one hundred pounds of nitrogen, twenty pounds of phosphorus and one hundred pounds of potassium, may be reduced to five tons of manure containing sixty pounds of nitrogen, eighteen pounds of phosphorus and eighty pounds of potassium. This rotted manure, with the same per cent. of dry matter as the fresh, would contain in one ton twelve pounds of nitrogen, three and six-tenths pounds of phosphorus and sixteen pounds of potassium. Rotted manure produced in this way is usually richer per ton than fresh manure, but the total amount of manure has been so reduced that the actual loss is very great."

PROTECTING TREE TRUNKS.

A wash recommended to keep rabbits and vermin from the trunks is given in the St. Joseph Fruit Grower, as follows:—Dissolve as much common washing soda as possible in six gallons of water; then dissolve one gallon of ordinary soft soap in the above; slake a quantity of lime to a thick paste and add enough of this to the above mixture to make a thick whitewash, which will stay upon the trees an eighth of an inch or so in thickness. One pint of crude carbolic acid added to each two gallons of the mixture will add to its efficiency in keeping away rabbits. It is best to scrape off all loose bark possible from the trunks and main limbs of the trees and also remove the earth from the base and scrape the loose bark from this. Apply the wash liberally from the main to the ground, covering all portions of the bark. To keep out borer, the wash must be applied in the spring before the eggs are deposited and again in about three weeks, or oftener if any of the grown insects are noticed. Apply by means of a whitewash brush.

If the rabbits or other gnawing animals are bad, I should not like to trust apple trees of mine wholly to the protection of any kind of wash. I use wooden veneer wrappers on all of my young trees, because they keep out the borers as well.

GOOD FRUIT YEAR.

Nearly all growers of good oranges, lemons or deciduous fruits have made considerable profits this year; but is it good policy to exploit this fact even as much as the facts warrant?

Growers and friends of growers should estimate profits on a period of not less than five and better still ten years.

It must be remembered that our growers need the protection of a tariff. Many congressman and senators get an idea, mostly from the most favorable reports in the most favorable years, that our fruit growers are piling up wealth with little outlay of money or labor, and therefore a cent a pound tariff on oranges and the duty on other fruits are no longer needed. Eastern consumers are being educated up to believe they should have cheaper fruit and call upon their senators and representatives to try and reduce the tariff.

It is well enough to keep it constantly before the public that there are prizes in fruit growing, but at the same time impress the fact that those who win the prizes do so at a large outlay of money, time, intelligent care of trees, careful picking, boxing and shipping, and then do not succeed every year.

Let's stand up for fruit growing, but don't make the impression on Eastern senators and congressman that it brings wealth every year or that it can safely stand without the protection Congress has so far given it.

There is no crop sure of paying the grower every year, either east or west of the Rocky Mountains; but we believe, one year with another, the profits of fruit growing are relatively sure and large for all who give their orchards timely and proper care.—Pomona Times.

The biggest rush in its fruit packing history is the claim of the Selma fruit dryers.

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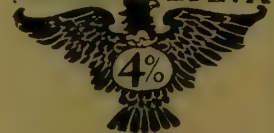
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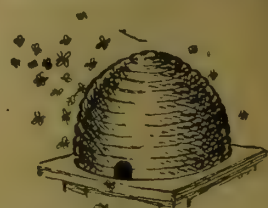
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POINTERS ON HONEY.

MANY stories, ancient and modern, relate to the manner of production of honey. All know be accepted as genuine honey must be the gathered nectar of flowers, obtained by bees through sucking or lapping with the tongue, which varies greatly in the various kinds of bees.

The average length of the honeybee's tongue is about two-tenths of an inch. This explains why the average honeybee cannot obtain the nectar of clover and other deep flowers, which are too narrow for the bee to enter with its body.

The honey gathered by the bees from flowers is quite different from the honey we recognize on the table. It is transparent and watery. It is taken from the flowers into the bee's stomach and deposited in the cell, where it is subjected to evaporation, or what is commonly called ripening. The cells are not capped by the bees until the honey has reached a certain thickness, which gives it the flavor best suited to the bee's taste.

This is not always the flavor most liked by humans, and the honey is allowed to still further ripen before it is used. During the process of ripening the bees keep a continuous current of air through the hive by fanning with their wings.

During warm summer evenings the hum from this continued fanning may be distinctly heard. Some believe it to be the way of disposing of the surplus heat generated by the clusters of bees. Doubtless, it serves both purposes.

Like nearly all good products of commerce, honey is often adulterated, but only in the extracted form, or "strained honey," as it is often called. The only way to be absolutely sure of getting genuine produce is to purchase the comb honey, for comb honey cannot be manufactured any more than can a hen's egg from which may be hatched a chicken.

There are some inferior grades of comb honey, due to the ignorance or carelessness of the apiarist, which critics will claim to be adulterated. If the grade of honey had been permitted to ripen more thoroughly or had received better care after removing from the hive, the quality would have been much improved.

There are ways of determining whether honey is pure or adulterated, and here is the simplest test we know. Cold water will dissolve honey readily, and when mixed, two parts of water to one of honey, the resulting liquid should be almost clear and not stringy. Fresh honey is fluid, but if kept for any length of time is apt to form crystals or finally crystallize into a hard granular mass. The presence of starch may easily be detected because it settles to the bottom on dilution with two parts of water.—*Colman's Rural*.

TREE PLANTING FOR HONEY.

It may be well for the beekeeper to try in part, at least, for the seed to induce his neighbor to grow alsike clover and alfalfa. It surely will be a use for every beekeeper to become crank on the matter of tree planting along the public highway. There are three reasons, each of which would be enough to warrant every effort to make this matter of tree planting general. The value of trees to the country in affecting climate cannot be overestimated. Europe has learned from bitter experience the necessity

of trees to regulate temperature and rainfall, and is so far more alive to the necessity of tree planting than are we. Wisdom shouts at us to learn of them and save the fertility of our country.

Again, nothing adds so much to the beauty of a landscape as do beautiful trees. Britain, France, Germany and, indeed, almost all the countries of Europe, are more like great parks than like the treeless, desert-like plains so often seen in our own America. Beauty is always attractive; and would we increase the value of our farms and lots we will make all haste to push tree planting to the utmost. Much of Germany is famed for its avenues of uniform trees along all the highways. Let us all spring to our opportunity and see to it that all our roadsides are adorned with the best of our magnificent forest trees.

A third reason for tree planting is that we may thus add immensely to the honey resources. Here, again, Germany has set us a good example. There we find the linden, the maple, the locust, and the catalpa and many other trees that are of great value to the beekeepers.—A. J. Cook in *Gleanings*.


WHY DOTH THE BUSY BEE?

The busy bee comes staggering down the airy pike loaded with honey and if you are in her direct path and she is tired and cross after a long day's work at the flower show, possibly she hands you a little red one on the neck. Yet the bee has no malice and may be excused on the ground of mistake in passing the lemon to the innocent bystander. Few people when suffering from bee sting think what the bee has been doing. To make one pound of clover honey, bees must deprive 62,000 clover blossoms of their nectar, and to do this requires 2,750,000 visits to the blossoms. In other words, one bee, to collect enough nectar to make one pound of honey must go from hive to flower and back 2,700,000 times. Then when you think how far these bees sometimes fly in search of clover fields, oftener than not, one or two miles from the hive, you will begin to get a small idea of the number of miles one of the industrious little creatures must travel. No wonder she sometimes gets cross, tired or irritated and gives you the push. The bee is a nice domestic animal and we all like her pure food product, but we do not care to dispute her membership in the Daughters of American Industry.—*Minneapolis Journal*.

SMOKER-LIGHTERS.

The uses of pieces of rag or other material soaked in a solution of saltpeter to use in starting the fire in the smoker is one of those kinks that add largely to the comfort and convenience of the apiarist. In preparing these be careful that you get the right kind of saltpeter. What you want is the nitrate of potash. I have known cases where the druggist substituted for this nitrate of soda, or "Chilian saltpeter," as it is sometimes called. For many of the purposes for which saltpeter is used this is all right; but it is not good for smoker-lighters. It does very well when it is dry, but it absorbs moisture from the air so readily that in damp weather it becomes quite wet, in which condition it is very unsatisfactory for starting fires.

The Pomona cannery put up 1,400,000 cans of peaches.



I.H.C. IRRIGATING ENGINES

If the Water is Lower Than Your Land an I.H.C. Gasoline Engine Will Solve the Problem.

THAT is often the problem with irrigators—the water is lower than the head of the ditch. The old way of doing was to construct the ditch up stream (often several miles) and head it high enough so that the water would flow down upon the land. If the only available water was a lake or pond below the land, irrigation was usually abandoned, because it was thought that the water could not be pumped up in sufficient quantities, or the pumping operation would be too expensive.

Irrigators know better these days. They are now placing I. H. C. gasoline engines on the banks of these low lying lakes and converting the waters to a beneficial use on their thirsty lands. They no longer find it necessary to build miles of extra ditch to get fall enough to reach the lands. An I. H. C. engine will take the water from the stream where it flows through or near the farm, and raise it any reasonable height.

Irrigation problems are solved with the I. H. C. engines, because they have three main characteristics that adapt them to the work:

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Have you a dry farm on your hands? Or do you know of a fine piece of land you would homestead if you could get some "unappropriated" water for it? There is no reason why you should abandon your project. There's always near at hand a low lying lake or a slough or an underflow or a well or a stream down at the foot of the bluff. Find anyone of these, and an I. H. C. engine will put the water where you want it.

The engines are made in various styles, Vertical, Horizontal—Portable and Stationary. They range from 2 to 20-Horse Power.

Look into the matter and see which one of these irrigating powers will do for you. The local International agent will be glad to talk over your particular case, furnishing catalog and giving engine particulars. Or if you prefer, write nearest branch house for catalog.



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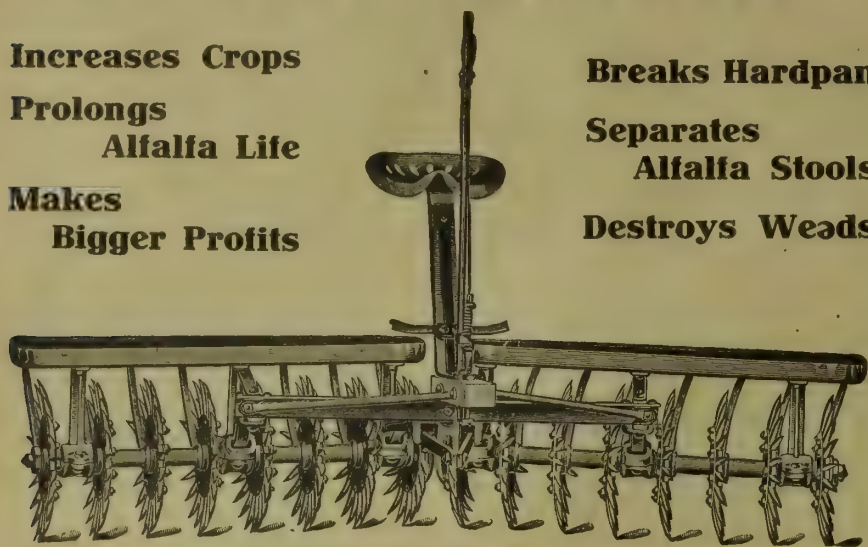
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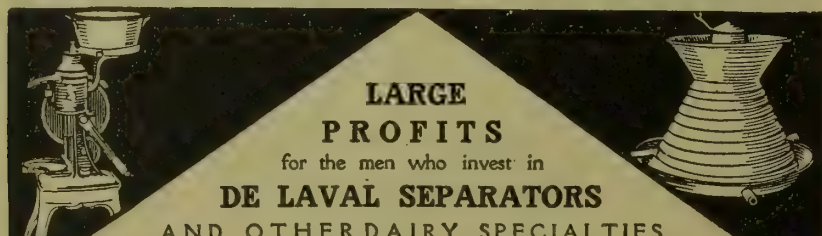


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For our Second Annual Sale we have listed 50 Head of Cows and Heifers, 25 Head of Yearling Bulls. Your opportunity to get foundation females bred to Imported Straight Archer, 209098, the sire of International Winners. Sale Will Be Held in New Live Stock Sales Pavilion, Newman, Cal. No Postponement on Account of Weather. Accommodations at Russ House. For catalogue address

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Molasses Now on Sale at \$1.25 Per Barrel

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For the Alhambra Addition Water Co., where we installed four pumps, from one well we pumped 48 inches with the Harris Air Lift, as compared to 30 inches by the old system, using the same power. Records of tests and catalogs mailed upon request. Completed plants installed. Air compressors, boilers and gas engines.

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A Booklet, "The Whole Story About Wood Pipe," mailed free upon request.

The second annual Placer county fair held last week at Rocklin, had exhibits from practically all sections of the county and was well patronized.

Local prices for wool at Healdsburg have taken a drop of several cents during the past few weeks, and it is predicted that not over thirteen cents will be paid.

Live Stock and Dairy

CHEESE MAKING.

THE use of cheese should be encouraged as meat is steadily advancing in price and cheese makes a good substitute for it. There is not a crumb of waste in using cheese. The broken bits are like pieces of stale bread, something that is valuable to make little appetizing additions to the family table. It is the use of these little touches that distinguish the home cooking from the hotel table. The loving little pats that are added to the food, because father, or mother or Johnny or Susie likes it. Added to macaroni or vermicelli seems to be about all the ways the average cook knows about using cheese. Try using a tablespoonful of crumbs of cheese in the ordinary flour to thicken milk dressing and putting this over boiled cabbage in the pot ten minutes before serving. It makes the cabbage come closer to its cousin the more expensive cauliflower in taste. Use the same sauce with stewed celery. In this little recipe there is a world of improvement over the ordinary white sauce.

Suggestions.

Again, add a little cheese to the celery and apple salad dressed with mayonnaise. Put the little bits of cheese on plain soda crackers with a dash of cayenne pepper and toast brown in the oven to serve with the after dinner coffee. Cheese omelet, cheese with scrambled eggs; scalloped white potatoes with the cheese white sauce are desirable acquisitions to the table. Cheese adds a tempting dainty blend to other articles used. A suspicion of fine flavor rather than actual knowledge of the contents of the dish should be the result of this blending.

Home Cheese Making.

Now that the cool weather is here there is no reason why the farmer's wife cannot from time to time make a small cheese and have it always at hand to use. It would be too bad if a careful woman cannot make as good cheese as the usual offering of California cheese that the local markets in country town. Eastern cheese, or Swiss at a high price is unusually not used by the farmer at all. If the first homemade cheese does not come out perfect in flavor for eating plain then it can be used in cooking to advantage. The home cheese maker is more apt to fail in care in the curing than in the making.

Utensils.

These are cheap and few, compared to those used in making butter. A large, new granite dish pan can be used for a vat. Either a new wire toaster or a Christy bread knife for a cutting knife. If neither are available then use an ordinary silver table knife. Steel knives are undesirable to use, even though they be well scoured; there hangs about them a fishy, steely flavor that is not to be removed. Have a couple of tin hoops made by the tinsmith, or if you care to expend more money, the Guoda cheese hoops may be purchased in small sizes. Have the hoops ten inches across and six inches deep. Have two tin followers made that will just pass inside the hoops; have in these followers eight or ten small

holes to allow the whey to escape from the cheese. A good dairy thermometer that can be put into milk completes the outfit. With some good cheese rennet tablets Hansen or any other make, only not get junket tablets as they are strong enough to make cheese quickly. Some squares of cheese cloth some long strips six inches wide bandages and some ten-inch circles for tops and ends to the chesers.

Milk.

If there is enough milk, say twenty-five gallons at a milking, use the morning's milk as soon as strain and aired. The airing is done by pouring from one pail held high to the other, in a place where the air is cool and sweet. If there is not enough milk from one milking then use the night's and morning's milk. Strain the milk at night through six thicknesses of cheese cloth into the granite pan. Put the pan in a cold place covered with a piece of cheese cloth. Dust is the great enemy in California. It is everywhere; to avoid it in the milk will require care. I put the pail in a room apart and turn the key on the door so that no one walks over the floor to stir up the dust. Walking around a clean room raises dust that may be imperceptible, yet damaging to milk used for cheese.

Next Morning.

The next morning when the morning's milk comes in, strain it in the same manner and add it at once to the milk in the pan. Before adding the fresh milk, stir down the cream and taste the milk, to be sure it is absolutely sweet. If it should have the least suspicion of acidity do not use it for making this form of cheese but put it into cottage cheese, or smearcase. Later, I will tell you how that is made, so if you fail to hold the milk sweet the first time then will not be any waste, only a different product from that intended. The night's milk is sweet, then add the morning's milk and bring the pail into the kitchen. Add the coloring matter, a teaspoonful to every twenty gallons of milk, will make it light yellow, while a teaspoonful every fifteen gallons of milk makes the cheese a deep orange. Usually the common Eastern cheese we buy is about half way between these two amounts in color.

Cooking.

Put an asbestos mat on the stove and on it the pan of milk. Stir gently from time to time until the thermometer shows a temperature of ninety degrees; not a bit above this nor below eighty-six. Ninety is to be preferred. Stand the pan on the kitchen table and add the rennet. The rennet tablets are dissolved in a cup of cold water. The small rennet tablets are used, one for every five gallons of milk. The large-sized tablets are one to every twenty-five gallons of milk. Take the thermometer and test the milk. If it is between eighty-six and ninety put in the rennet. If it is not, make it right before adding the rennet. For this is a case where you have no right to do as you please, except to please to do right. Stir thoroughly, but gently for a minute. Cover the pan with

Veterinary Instruments, Black Leg and Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

See us for Sanitary Milk Bottles. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

piece of cheese cloth for twenty minutes.

rd.

When I desire to be a certain length of time doing anything, I set the alarm on the clock and then I can make the clock with me and do some other little work. The clock calls me to the milk without waste of time in constantly watching its face. It accomplishes so much more when they guard the minutes. At the end of twenty minutes, try the curd putting your finger gently on it and pushing sideways, if it breaks away from the mass of clabbered milk with a clean, clear cut across, it is ready for the next step. If any floating particles show in the whey when the curd breaks, leave it standing until the break is clean. I find the rennet varies considerably, sometimes forming a smoothly, breaking in fifteen minutes and again other tablets taking thirty minutes. The directions that come printed with the tablets should be carefully read and followed. Each manufacturer has only a desire to have his goods give full satisfaction, and will give the directions accordingly.—M. J. Sherman.

SIMPLE STOCK REMEDIES.

For scours in calves, try a raw egg stirred up in a little milk and a tablespoonful of flour added. One farmer recommends saleratus in the milk, a teaspoonful at each feed till cured.

For lice on calves, use grease and sulphur, or spray with kerosene; do not put on too much or it will take the hair off.

If your horse breathes hard and has a cough, look out for heaves. To prevent them, do as you would if he had them. Give but little hay, and give water carefully; allow a little time after feeding and watering before putting to work. Give five-grain doses of arsenic once a day for two weeks. Improve the condition of the horse as much as possible, and relief will follow.

Often when horses are poor in flesh and not doing well, the trouble is worms. If such is the case, give a tonic—powdered sulfate of iron and gentian root in equal parts. Give six drachms twice a week till his condition improves.

Mange in horses is caused by an insect which burrows into the skin; to cure it this insect must be scoured out with sand, the affected parts washed with soap and warm water, using a brush and drying carefully; after this apply an ointment of sulphur and lard, or sulphur and water.

For a sore or wound on a horse or man I know nothing better than a solution of carbolic acid. In warm weather it acts as a repeller of flies, so.

Foul in the foot in cattle is caused by standing in mud, and may become serious; to cure, cleanse the space between the toes by drawing a small rope through, then apply sulphate of zinc, one drachm in half a pint of water.

For caked udder in cows, try this: remove one of your horses from his stall, throw a quantity of horse manure in the stall, and tie the cow in there over night. An old farmer told me of this; as I have never tried it, I cannot say as to its value; but it surely can do no harm, and it cannot always be said of dosing with drugs, either in man or beast.—John Upton, in Journal of Agriculture.

FORMULA FOR VERMIN ON STOCK.

Texas crude oil has the approval of the United States government for dipping cattle to cure mange and kill ticks and lice. It will do the work, but badly injures the hair and the skin in this climate. We now use the arsenical solution given by N. S. Mayo, V. S., in the Breeders' Gazette of Chicago, issue of March 14, 1906. It is cheap, entirely effective and does not hurt the cattle in either cold or hot weather:

For Killing Cattle Ticks.

White arsenic.....	1½ lb
Sodium carbonate (crystals).....	4½ "
Laundry soap.....	4½ "
Pine tar.....	1 quart
Water.....	100 gallons

Dissolve arsenic by boiling in water, using five gallons or more, boil half hour. When dissolved add it to 20 gallons of water. Shave the soap, mix it with the soda and dissolve in five gallons of water. When dissolved pour in the tar, pouring slowly in a fine stream, stirring as you go to get in solution. Then mix with the arsenic solution and add water to make 100 gallons. To be used as a dip, a spray or wash. The solution loses but little by age.

We apply it with a force pump, the same as used in spraying orange trees. Three men can spray 100 cattle in 200 minutes after they are penned. A small pen or chute, just large enough for one cow, connected with the big pen, is needed.—Florida Agriculturist.

PROFITS IN THE SMALL DAIRY.

A subscriber from Santa Cruz, tells us that he is going to close out his dairy of 20 Jerseys, because he cannot make any money, feed and help being so high. Several times of late we have had such information from small dairymen. Of course, the question of feed is ever present with the dairymen, some years more strenuous than others, but the milking proposition bids fair to be settled soon by the small milking machine which is being put on the market. This machine will milk a cow, it is asserted, in from three to five minutes, so that 20 cows may be milked in an hour and a half at least.

That dairying on a moderate scale pays, is an established fact. Here is an instance to prove what a farmer did with a herd of 45 cows on a Michigan farm, as reported in the Agricultural Journal:

"HENRY HART OF HARTRIDGE."

We are in receipt of a short love story, entitled, "Henry Hart of Hart-ridge," published by Fairbanks, Morse & Co. of Chicago, Ill.

The story is beautifully illustrated, the frontispiece showing the heroine, Jessie Curtis.

Numerous illustrations of the farm scenes showing the possibilities and advantages of modern machinery appliances are interspersed throughout the story.

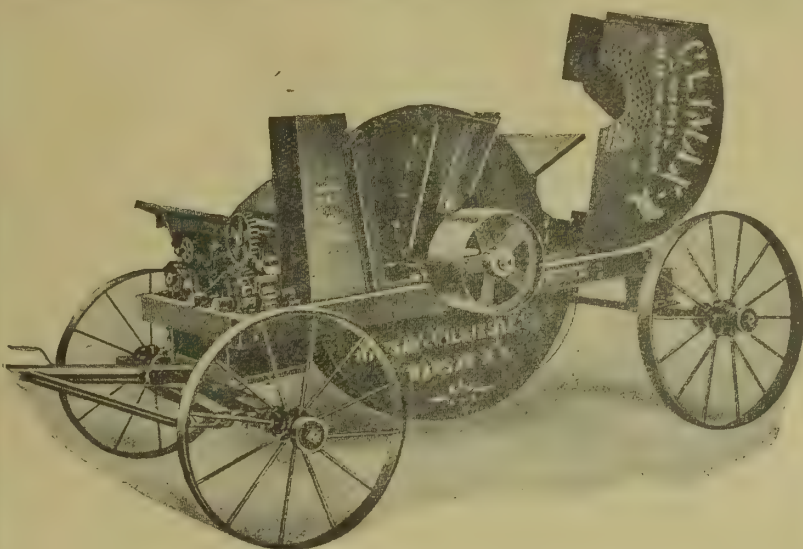
The tale is interesting from start to finish and to those who contemplate improving their country places, the book will be found rich in practical suggestions. A copy will be sent free to those interested.

"The sheep men of Arizona have never experienced the prosperity which has been given to them this year" says Southwestern Stockmen.

The annual colt show of Polk county was held at Dallas, September 28th.

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

Climax Ensilage Cutters



In the Climax Pneumatic Ensilage Cutter both the cutting and elevating are done by a large wheel which carries the knives on one side and the elevating fans on the other. Both the cutting and elevating, therefore, are done at one operation, in a much simpler manner and with an expenditure of much less power than in those machines where the elevating device is a fan attachment added to the cutter.

The convenience of having an ensilage cutter of large capacity on its own road wheels is obvious. We confidently assert that no other ensilage cutter is so easy to work and easy to move and set up as ours, or has such large capacity for power used. They are unequalled in simplicity, strength and durability, convenience and safety in operation, and the excellent quality and uniformity of the silage.

We received at the

St. Louis Fair the Only Award

for ensilage cutters of the side-wheel type, 15 to 25 tons of green corn per hour, where cut in one-half-inch lengths, other feed in proportion. For further particulars, call on or address

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from the island of Jersey a specialty.

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Registered Shorthorns
MILK STRAIN

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KEEP GOOD STOCK.

In writing about the dairy condi-
tion about Corcoran and the profit in
his own dairy, Mr. Geo. A. Smith of
the Corcoran creamery, says:

I have a herd of 275 head of pure
bred and grade Jerseys with a \$1000
Golden Lad and St. Lambert bull at
the head of the herd. My herd has
averaged as high as \$8.75 per head in
a single month, to say nothing of
the calves, pigs and poultry which
would raise that amount consider-
able.

Another herd in which 120 grade
cows were milking paid \$956.10 in a
single month, calves, pigs and poul-
try not counted. Seven, seven and
one-half and eight dollars average
per head per month is not uncommon
here.

I most certainly believe in good
stock of every kind and I also be-
lieve that creamerymen should do
more to encourage the improvement
of dairy cattle, as that is the only
way to increase the average returns
per cow. We cannot reasonably ex-
pect the price of butter to rule very
much higher than during the past 12
months, so in order to get greater re-
turns from our dairies we must in-
crease their ability to produce butter-
fat and we do this by introducing
better blood. I also believe the
dairyman should improve his stock
along the lines he likes best. Should
he favor Holsteins, then get Hol-
steins; should Jerseys be his choice,
then get Jerseys, or the same with
Durahm or Ayrshires or Guernseys,
and having once made his choice
stick to it and continue to improve
along that line of breeding and do
not every few years change the breed,
as crossing the breeds never improves
the stock and that is the one great
trouble with the average dairyman
of today—he is the victim of too
much crossing of the breeds so that
he has no distinct breed but a mon-
grel lot of common scrubs and gen-
erally of the commonest kind, pay-
ing three, four or five dollars per
head per month, and from one-third
to one-half of the herd in the dry
pasture producing nothing.

The Jerseys are my favorite breed.
They are not large milkers, but they
are great for sticking to it. They
will set a pace and keep it up, and at
the end of the year I find an aver-
age between 300 and 400 pounds
of butterfat per cow. Furthermore,
my cows are giving milk. Not 5 per
cent of them are in the dry pasture.
They are persistent milkers and it
is with great difficulty that we are
able to dry them up when we wish to.

While with some breeds, they make
a great spurt on the start and make
enormous 7-day and 30-day records,
but at the end of the year they are
not in it with the little Jersey that
sets a good pace and sticks to it.
Just so with the good roadster that
starts in the morning on a long trip
and sets a good steady gait—at night
he will be farther on the road than
the horse that makes a great spurt
on the start and soon tires himself
out.

Veterinary physicians and surgeons
advise, washing the galled shoulders of
the horse with a mixture of alum and
water. This is soothing and cooling
to the affected part.

Destroy lice, expel worms and pre-
vent constipation. With proper feed-
ing this will put your hogs into con-
dition to resist disease.

FEEDING THE CALF.

The season is now on when calves
will need attention to keep healthy.
In no way can this be done so well
as by care in feeding. During the
first week of the calf's life it should
be fed principally on whole milk.
Then begin gradually to change to
skimmed milk by adding a little each
day and decreasing the amount of
whole milk, so that at the end of
three weeks the calf will be entirely
on a feed of skimmed milk.

Do not at any time give the calf as
much skimmed milk as it can drink.
It is strong physically, but its stom-
ach is weak, and if it is given more
than it should have its digestive
system will be deranged and illness
will follow.

After it is two weeks old, give it a
little ground corn or gluten meal in
the milk. The skimmed milk is rich
in protein and the addition of these
fat-containing feeds is necessary to
balance the ration. When whole
milk is given, this is nearly balanced
because the cream, containing the
fat, has not been removed. Some
add oilmeal to the skimmed milk,
but this does not balance the ration.
Oil meal is also rich in protein, but
contains very little fat-forming
food elements.

When it is desired to wean the calf
from skimmed milk, do so gradually.
Decrease the amount fed a little each
day till the calf is weaned.

Best results are obtained by not
feeding more than a gallon and a
half of skimmed milk to the calf at
one time. If more than this is given,
the animal overloads its little stom-
ach and serious trouble may follow.

CONTAGIOUS ABORTION.

The disease is likely to be mistak-
en for accidental or sporadic abortion.
The latter differs in that it may occur
at any point during pregnancy; there
are more marked premonitory symp-
toms, the act is not so easily accom-
plished, the placental membranes are
more likely to be retained, it may be
due to injuries, to food, to cold, to ex-
posure, to storms, to drinking very
cold water, to drugs, to constipation,
etc. There will not be so many ani-
mals affected, and if several should
abort it will be within a short period.

Treatment—This disease will per-
sist for two or three years in a herd
if not properly treated. The treat-
ment is purely antiseptic. It has been
found that separating the sick from
the well, destroying fetuses and
membranes, and thoroughly washing
out the uterus and vagina twice a
week for seven or eight weeks, and
not breeding until the third month
after abortion that the trouble is com-
pletely checked the following season.
The antiseptic used was 2 per cent
cresol. The cattle should be made to
pass through a chute, and while in the
chute, a douche is administered by
means of a large-sized force pump and
rubber hose. The rump, tail and
soiled parts are treated oftener. The
male must be washed out thoroughly
at frequent intervals. The same line
of treatment has been followed with
excellent success in herds of sheep.

The Guernsey is commanding at-
tention and approval as a breed that
is especially fitted for winter butter
and cream, and when their positive
character is generally recognized
they will be largely used to produce
a winter milk that has all the color
and delicious flavor that is usually
associated with the golden days when
clover is in bloom and the pastures
are knee deep in grasses.

Clean Skimming Means Good Living

The hog trough is no place to put
butter.

Wide awake farmers want the
cream separator that skims the clean-
est. It means more profit—better
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Dairy Tubular—no separator that's
different.

Sharples Dairy Tubulars have
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separators—skim twice as clean.

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dairying at the agricultural college of
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says: "I have just completed a test of
your separator. The skimming is the
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of fat. I believe the loss to be no great-
er than one thousandth of one per
cent."

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My Berkshires took every blue ribbon and Gold
and Silver Medal in the female classes. Choi-
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20 months old from J. A. Daugherty's herd
Registered Holsteins, Streator, Ill. Largest
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High Grade Stock of Best Strains.

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Information, booklets and rates furnished
with pleasure by all agents of the Salt Lake
Railroad

With the Citrus Growers

PICKING AND PRUNING THE LEMON.

NEVER pick lemons in sacks; use a basket and transfer to the picking box three in each hand carefully. It will always pay to take this extra care in picking lemons. It seems we cannot impress on the minds of the lemon growers the great necessity of handling their lemons carefully. Any slight rubbing together, such as picking in sacks, causes quick decay. Some growers who are obliged to wash their lemons on account of smut, say that it does not harm their keeping qualities; but we want to say just now to those who wash their lemons, that as long as you hold to that idea just so long you fail to be successful in lemon growing.

There are other things just as essential, and that is picking lemons at the right time. You do not pick frequent enough. We notice orchards every day where the lemons have been hanging on the tree for weeks after they were large enough to pick, and then when they are picked we get lemons from a small, undeveloped size one and one-half inches in diameter, to a great overgrown size, three and one-half inches in diameter. Now this is all wrong and many growers who did this admit that it is wrong, but let us state the general excuse for this: that it does not pay and they cannot afford the expense of going over orchards as it should be done. Now it will ever pay at all, it will pay to attend to this as it should be done. When picking lemons use a two and one-fourth-inch ring and do not pick a lemon that will not fill the ring—unless the lemon is yellow or very imperfect. Then it should come off any time. Keep up this picking every two weeks for one season and you will be surprised at the increase in both quality and quantity.

Dry, hot days are bad for picking lemons, as they soon wilt if not attended to. Keep them out of the sun, and the boxes, when filled, should be covered up closely to keep the moisture, and they will keep firm. There is a great deal to be done in the way of pruning, in both the lemon and orange. Head back and thin out. Many people object to heavy pruning or the only reason that it requires so much work to thin out and control the new growth. There are orchards that have been pruned for three or four years but the thinning out process has never been performed and the trees are almost worthless as they are now. Let us give more attention to the growing of a better quality of lemons.

GIVE THE TREES FERTILITY.

Commissioner Pease of San Bernardino county, apparently believes that our orange growers must wake up and give proper fertility to the soil. In a letter to the Cultivator, he says:

"There is quite a difference of opinion in a certain locality in regard to the cause of dead wood in citrus trees. Some call it Florida Die back and are spraying with Bordeaux mixture. Others who are considered good authority, think this is working in the wrong end of the tree and are using fertilizers as a remedy for the difficulty.

"For myself, I favor the latter theory for I have found that the poorer and more porous the soil the greater the amount of dead wood."

ORANGES IN PORTO RICO.

A most interesting letter has been received by J. W. Mills regarding citrus conditions in Porto Rico, from Fred Palmer son of Frank L. Palmer, superintendent of the large Richards Orchards at North Pomona.

Regarding Mr. Fred Palmer, Mr. Mills writes:

"Fred worked with me on my fertilizer experiments for two years; went to New York city where he worked in an office for a year and was sent to Porto Rico by a company to take charge of their 250-acre orchard."

The letter was written from San Juan on Sept. 14, and from it we quote:

"It is hard to know what to say about Porto Rico when writing to you. It is a country which has unlimited possibilities. We are raising (or trying to raise) citrus fruits. Our neighbor just across the Bagamon Rivers is raising sugar cane and pineapples. Some little distance farther inland toward the mountains, we find an American opening new land for coffee and tobacco. Others are interested in cocoa berries, peppers and such small scrub products as that. There are numerous coconut plantations that seem to be thriving.

"The price of property is rising steadily. American industries are noticeable at every hand and improvements are being made along many lines.

"We do not know which are the most profitable of all these different products. Our shipping and transportation facilities have not been perfected yet to the extent that we can know. Transportation will be cheap but will it be fast enough to avoid decay?

"The oldest citrus trees in our plantation are six years old and are very large. Grapefruit seems to be a sure crop. They raise grapefruit that is as fine as any that goes into the New York markets, but the oranges are still on the doubtful list. They have about twenty different varieties growing, including all of our standard California varieties. The most are different odd, old fashioned Florida varieties which really are of little value. They have budded all these onto native sour stock. This makes a very hardy fast-growing tree.

The trees are of a different shape than our Washington navels, they grow more open and scraggly, due I think to the continuous humidity in the air, and to the continuous trade winds. They do not seem to possess the fruit-bearing wood that our trees do. They have a tendency to make wood instead of fruit.

"Our plantation of 250 acres is located on the seashore on land that was once a heavy forest or jungle. This has been cut away and by leaving strips of the forest, they have a strong wind break left standing for the protection of the intervening strips of orchard.

"We get very quick results from our fertilizers as the soil is very full of lime. There is no subsoil, the roots are all on the surface. The whole plantation is rolling, having been entirely formed by the ocean. The soil is all on the surface, the sub-structure being nothing but sand. It is very interesting to me. I think there is nothing like it in California."—Fred B. Palmer.

Citrus Trees

For Season 1908

Valencia, Eureka Lemons, Thompson and Washington Navels, Grape Fruit

C. L. McFarland & Co.
Riverside, Cal.

George B. Warner's Orange County Nurseries

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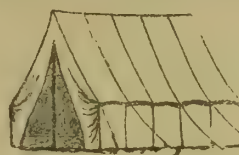
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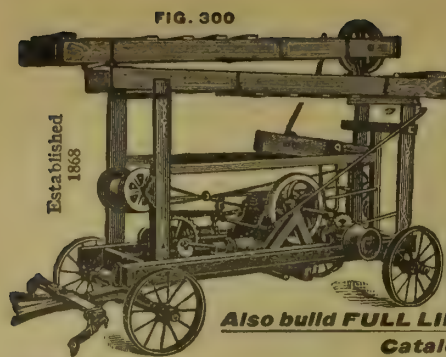


Oranges and Lemons

When the right varieties are properly grown and planted, are money makers. Our new booklet on Citrus Culture tells all about the standard sorts, planting, cultivation, irrigation and packing the crop. Over 100 illustrations and something like 50,000 words of text. The price is merely nominal, namely, 25 cents. May we have your name for a copy?

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cessfully drive, in prospecting, that
OIL, GAS or WATER problem.**

Also build FULL LINE heavy PUMPING MACHINERY.
Catalog mailed on request.

The Superlative Raspberry



Too much cannot be said in favor of the Superlative. It is a red, sweet berry three times as large as any other Raspberry, to my knowledge. It is a continuous cropper from May to November. I counted on one cane 472 berries of different sizes. Just think of a sweet raspberry as large as a Red Logan. Do you know what that means? It means for years to come heavy demand for fruit and plants. Every nurseryman will want a heavy supply. I received 5,000 plants from the introducer in Europe last Spring, and another 5,000 will arrive in November. I offer 2-year-old Plants now at 50c each, \$5.00 per 12, express paid. Going fast.

A. MITTING, 17 to 23 Kennan St., Santa Cruz, Cal.



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Successful
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One acre worth \$25,000. You can grow such a crop, and we can tell you just how to do it. We have 60,000 roots growing thrifflily in our garden near Santa Cruz. You need California grown Ginseng to begin with. Our stock is limited. We shall not sell enough to cripple our own garden. Write us for information regarding conditions, space required, price of seed and roots, etc.

Lilydale Ginseng Garden

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All seed strictly the best that can
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Yourself an Acetylene Gas Machine that you may have the conveniences and pleasure of the best known light and gas to cook and iron with on the hot days that are coming. We have a good machine that works right, and our best friends are our customers. We want more friends! You will be one if we serve you! Write to us just as though you had known us all your life, and we will be glad to answer or send some one to see you.

Yours for light,

20th Century Light Co.

609 E. Seventh St., Los Angeles, Cal.

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PULL POWER NO PLUNGER TO BREAK.

7-inch Step-Over.

**STRONGEST
PRESS ON
EARTH.
ALL IRON
AND STEEL**

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ber 18 inches
off ground.

Stands up to its work, no taking off wheels.

Constructed especially for heavy California hay baling. Write for proposition to ship you a New Century on 70 Days Free Trial. Sold on easy payments. Shipped direct from warehouse in Los Angeles. For full particulars address Capito Carriage Co., 12th and Main, Los Angeles, Cal. Two Second-Hand Presses For Sale at a Bargain

The Vegetable Gardener

STORING SWEET POTATOES.

THE following valuable hints on storing of sweet potatoes are taken from a bulletin recently issued by the Alabama Experiment Station:

(1) Never employ diseased roots to secure sets. (2) Destroy, by burning all diseased roots and sets, and do not feed the diseased roots to animals if the resulting manure is to be placed upon the field where the potatoes are to be drawn. (3) In general, commercial fertilizers are preferable in sweet potato culture on the above account, and particularly in the beds employed for the growing of the sets. (4) As you select your sets it may be well to lift the root and discard sets coming from roots showing the rot. (5) Do not place diseased potatoes in storage, as the loss may be very great. (6) The young sets, if diseased, may be sprayed with Bordeaux mixture. (7) If the disease has proven serious during the past year it would be well to mix a tablespoonful of sulphur with the soil about each set as it is planted. (8) Practice rotation of fields if one field becomes too badly infected with the fungus. (9) Collect and burn all diseased roots and stems.

In order to lessen or prevent rot the potatoes should be perfectly dry when put in storage and kept dry throughout the period of storage.

During the sweating period just after the roots are stored care should be taken to see that proper ventilation is provided and that the temperature be kept at about 70 degrees F. The temperature, in case enough roots are stored to make the erection of a regular storage house profitable, may be best secured by means of a small stove. Where the roots are stored in the usual dirt-covered piles it is important not to let water get on them whenever they are opened to remove any potatoes. The fungus requires a certain amount of moisture for its most rapid development, and this is too often furnished by carelessness in opening these piles.

The rots are caused by well-known plant diseases, one of the most injurious of which is the soft rot. This disease usually gains entrance the first week, giving plenty of ventilation to carry off the moisture. After this the temperature of the storage room may be maintained at from 50 to 65 degrees F.

If this process is not convenient a good method is to give all the ventilation possible so the potatoes can dry very rapidly for about two weeks. It is necessary to guard the ventilation and permit only dry air to enter, as moist air will deposit its moisture on the cool potatoes and this will produce the best possible condition for the potatoes to begin rotting.

The storage room must be dry, and very few cellars meet this requirement. The ventilation should be just sufficient to keep the air pure and the potatoes dry. The condition of temperature should be provided for in the construction and location of the building. Small quantities of potatoes can be kept by storing them in dry sand or road dust and keeping them at the proper temperature. The old time practice of piling the potatoes on the ground and covering them with straw and litter and then with soil is too often a failure to be recommended.

SALSIFY—"MOCK OYSTER."

This is a vegetable that deserves wide cultivation. It will thrive even poor soil, and manure should never be put close to the plant as it causes them to throw out so many fibrous roots instead of attending strictly business and making one strong root that will grow larger than a snip and if rightly cooked is gift with the faculty of making you think your meal is from the scallops of the ocean. After the thistle-like blossom have dropped the seed, if the ground is moist, it will come up thickly and must be thinned to six inches apart or if transplanted it must be done when quite young as with all deep rooted plants. It grows prolifically in California and more than supplies the place of the parsnip that gets quite surly because the thermometer does not drop down below zero, so it can hibernate all winter.—Kerman News

WATER PUMPED THROUGH PLANTS.

Few realize how continually the plants that grow on the earth are pumping water from the soil into the air. Every normal plant is engaged in this work, and the surface of the earth is covered with them except in the regions of eternal frost and the great deserts. Experiments made in Utah showed that through June, July and August of one year each foot of soil lost by evaporation of moisture through plants over nine pounds of water. When this is multiplied the number of feet in an acre gives over 190 tons of water for single acre. When this is extended to the plant-covered surface of the world it indicates the fact that a good sized ocean of water is by the plants pumped up into the air each year and that for each day a good sized sea is so returned back to the element from which it came—the air.—Coleman's.

TREE RASPBERRY.

A "tree raspberry" is said to be the latest fake in the East. The Horticultural Department of the University of Wisconsin Experiment Station is warning farmers against buying the "Tree raspberry bushes." Claims and endorsement are commonly made by agents without the knowledge of any one connected with the station. It has been the policy of the Horticultural Department not to recommend novelties, for it has always advised the farmers of the State to purchase only known varieties and let the Experiment Station test the merits of the new varieties. The Horticultural Department has not tried the "tree raspberry" and has not had this plant brought to its attention.

Chickens and gardens are supposed to be absolutely incompatible, because the old hen is apt to scratch up newly planted seed and also to eat into cabbage heads, tomatoes and such things. But if such damage can be averted in any way, it is a good thing for the garden for the chickens to run in it. They catch innumerable bugs and moths that do harm, and they always thrive in the garden.

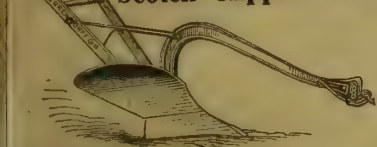
Watch the weeds in the strawberry patch and don't let the fall rains give them a fresh start.

Walnut trees at Dundee, Oregon, are yielding as high as fifty pounds of nuts per tree at ten years old.

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THE HAPPY GARDENER.

When you die, earth lover,
Flowers shall be your cover.
Braver than the purple pall
Spun to veil dead kings withal,
You are weaving day by day,
Beauty for the sun to slay,
The fleeting pageant of delight
That dwells within a garden bright.
You this Persian carpet spread,
And named it a sweet William bed.
You painted this great lambent
screen
Of larkspur, lillied white between.
You hang vine garlands, low and
high,
Ripe for Bacchus, reeling by.
You are the over-lord of grapes
And plums, and all alluring shapes
To win the eye and tempt the tongue,
Globed liquid honey, leaves among,
Living, you, an earth-born guest,
Are of men the mightiest;
And when you die, earth lover,
Flowers shall be your cover.

—Harper's Magazine.

"BACK ENDS."

IF YOU have ever given the sub-
ject a thought, you have probably
noticed that the home-folks, the
family, live largely in the rear rooms
of the house, whether the dwelling be
in city or country, the house large or
small, says a writer in Journal of Agri-
culture. This is not always or often
because of a desire to "keep up ap-
pearances," as some irresponsible
writers would have us believe. One
very big reason for this is that the
house mother usually spends the most
of her time in the region of the
kitchen, and where the mother is,
there is always the atmosphere of
home, which no other place does or
can possess. It seems natural for the
family to gather in such places when-
ever a leisure moment occurs.

In many homes, if the sewing is not
done by piece-meal, or "snatch-grab"
methods, it does not get done at all;
so the sewing machine is located at
one of the kitchen windows where the
home seamstress can sandwich the
sewing and the cooking together and
where the sewing machine is, there
will darning and patching basket be
found also. Where the kitchen is
small, or "cluttered" with much fur-
nishing, the dining-room is often an-
nexed for the home work; but every-
thing hinges on the kitchen, or the
rear rooms at least; the house mother
is always sought and generally found
there; the babies are reared; and
there the toddlers can play without
let or hindrance, while the older
children find it an ideal workshop for
their own affairs. In these rooms, no
matter how topsy-turvy things may
get, a touch here and a lift there, as
the mother goes about her work, can
keep down the worst of the disorder,
and she can thus "keep an eye" on
the restless youngsters, smiling ap-
proval or settling disputes without
neglecting her own business. So, the
real home of the house is in the rear
rooms.

But did you ever look out of those
back windows and notice the condi-
tion in which the backyards are kept?
Just cast your mind's eye over the
backyards you have seen—your own
among them—and tell me what you
think of the view as a "daily food"
for the tired eyes of the housewife
as she steps to the window or door
for a moment of rest or inspiration.
Oh, no; it is not likely she has ever
complained—women seldom complain
of such things; they are good at mak-
ing excuses for your negligence; but
did you ever hear her compliment
them?

If this has not entered your mind
before—or if it has—now is a good
time to take an inventory of the fur-
nishings of this outlook from the
back windows, and if the view is not
satisfactory, decide what can be done
now or later on. You will find that
right now is a good time to begin,
and if you do begin the good work, do
keep it up until you have made
amends. It is a good idea to go over
the house grounds with a pencil and
a blank book, and note down the
things as you see them. Even if you
have a nicely arranged yard with
grass and shrubbery and a few shade
trees growing, now is a good time to
see if any improvement in the plan
could be made. Give the good wife
the privilege of suggesting and of ex-
pressing her preferences. Do not
take your neighbor's or your chance
visitor's word for it that all is as it
should be. Let your wife speak and
tell you what she wants. She has to
live with this view before her eyes,
in season and out of season and the
outlook should be according to her
taste. I know a woman who simply
hates her home because it is shroud-
ed in vines and shade trees to such an
extent that she is a veritable shut-in,
and can see absolutely nothing out-
side the walls of leaves close to the
windows and doors. Yet others com-
ing into the coolness from the sights
of the streets or country are delight-
ed with its seclusion! Would you
blame this woman if she "nags?"
There is absolutely nothing by which
she can rest her nerves or change
her thoughts, except to grow more
discontented because so imprisoned.
Owing to defective hearing, this im-
prisonment is absolute, as there is
neither sight nor sound to change the
current of her thought, and it is im-
possible for many reasons for her to
get away from her solitary confine-
ment.

There are many things dumped
about the back yard which have no
business there. On some farms these
"things" consist of anything, from a
rusty nail to a disabled threshing ma-
chine, and great forests of worse than
useless weeds are fostered there
among the rubbish. From the fact
that the grounds about such houses
are usually the receptacle of all the
house-slops and of many other kinds
of fertilizers, the soil is usually very
rich, and it would be an ideal spot
for a lawn, or flower garden, or even
a cultivated vegetable garden, for
useful things would grow there as
well as weeds and with much more
profit.

It is generally true, too, that all
the outbuildings, however unsightly
or unsavory as to smell, are in full
view of these windows and doors,
and very, very frequently the back
yard is really considered as part of
the stock yard, where calves, colts,
pigs, poultry and the like are turned
out as a matter of course! Now, do
you wonder that the women and
children—especially the growing
girls and boys—long to get away
from the farm? Do you wonder that
the young people prefer the hardships
of the city to the "comforts" of the
home they are ashamed of?

I hope the gude mon will get his
eyes open and take a look at these
tangles. I know just how they look
to the eyes of the beauty-loving
woman; for—well, I lived on a farm
once; I might say I lived on several
of them and I know whereof I speak.

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SANTA BARBARA'S METHOD.

The general public has some time since made up its mind that the automobile has come to stay. It may not be a welcome fact, but it is a true one, nevertheless. We have got to look the situation in the face and be content with what we see. This being the fact, we have also to realize that the automobile has certain rights on the highways which we are bound to take notice of and to respect. We do not like to be forced to this conviction, for the automobile is a natural nuisance. It is a dirt disturber, a road destroyer, horse frightener and a nerve breaker. It causes accidents, and in the hands of a careless driver or incompetent driver is a death dealer. But it has come to stay. Recognizing this fact, we must consider its relation to our public highways. On some classes of soil it tears the crown of the road to pieces and makes chuck holes which seriously impede travel and retard the progress of farmers' teams hauling loads to market. On other soils it does not do that injury, but generally speaking it is not good for a highway. Automobilists know this, and in some sections of the country have formed good roads clubs and are proving exceptional road makers, so much so that the farmers are becoming enthusiastic supporters of the automobile good roads clubs, and are lending assistance to their endeavors to make the highways in all respects first-class.

An example in mind is the automobile club of Santa Barbara. Through that county were stretches of very bad roads. The supervisors would not repair them, so the automobile owners did, and this is the way they worked: They gave a picnic to the farmers in the section where the roads needed repairs; they turned out as a club in full force, taking their wives with them; they mapped out the section to be covered, and while the women prepared the meal they turned in with

shovels, picks, and even hand-scrapers, filled in the chuck holes, used their big machines to level down the humps, and before night had a good stretch of country covered. The supervisors looked on, so did the farmers, and when the day was over and a couple of miles of bad road had been put in fair condition, the spectators voted that the automobilists were not such bad fellows after all, and that they were entitled to fair play, at least. Since that date continuous work has been going on, until the worst places are mended and the whole county is shouting the praises of the Santa Barbara club.

Speaking of the accomplishments of this club, one of its members says:

"We didn't do the work of a good gang of hardy laborers, but the work had the effect of showing the county officials that we meant business, and since then they have given us their hearty co-operation. It was largely through the efforts of the Santa Barbara club that the Casitas grade was fixed, eliminating the one very bad pitch. This was not in Santa Barbara county, but we wanted the improvements, and by combining with the farmers in that vicinity completed the new road.

"There is no excuse for the roads in Los Angeles county. A live leader and concentrated pulling will bring results. The motorist cannot sit still and accomplish anything by talking. It takes action, but once started the improvements will move rapidly.

"In my observations I have come to the conclusion that one of the main faults in the county road work is the lack of knowledge in road building and repairing. Men are put to work on these roads who know no more about the work than a small boy. There has been a lot of money wasted on our roads, but if the three counties—Los Angeles, Santa Barbara and Ventura—will get together and do something, there will be some good roads between Los Angeles, Ventura and Santa Barbara. Here is one of the prettiest trips in the southern end of the State, but during the fall of each year the road is in such shape that part of the pleasure is destroyed. It would be to the advantage of all of us to have a fine road between these points.

"During the winter Los Angeles, Pasadena and Santa Barbara are crowded with tourists from the East, many of whom have their motor cars. These people want to take trips about 100 miles in length, but they insist upon decent roads, and, as things now are, we cannot offer such."

Here is an experience certainly worthy of being repeated in every locality where there are enough automobiles to form a club. If the owners of autos throughout the State will organize for good roads, they can exercise an influence which will be powerful in accomplishing the result. Let the idea of the Santa Barbara club be advanced until every county in the State shall have one or two clubs whose object is to give practical assistance to supervisors and citizens, and by so doing awaken public sentiment to the value of first-class highways throughout the State.

COOLING FRUITS.

Fruit shippers generally are recommending the practice of cooling summer fruits before shipment. In a paragraph in Coleman's Rural World, the statement is made that "within a few years all important fruit-shipping stations will probably be equipped with cooling apparatus and the cars will be chilled down before taking on their loads." It has only been a few years since fruit cooling before shipment in hot weather has been in vogue, but during that time experience has shown that the process pays well, for the expense in cooling the cars is amply recompensed by reduction in percentage of decay. California shippers who have resorted to the practice of cooling the cars before loading, report much less loss from decay than formerly. From information gathered by Coleman's Rural World it appears that fruit thoroughly cooled before it is started, and with the interior of the car thoroughly cooled before it is iced, a marked lessening in the quantity of ice to complete the journey is shown. At the same time, says Field and Farm, the fruit is kept in much better condition than when placed on board when warm and then cooled after the car has been closed up, a condition that to a certain extent causes sweating of the fruit, inducing decay. If the fruit is thoroughly dried and cooled and the car is also chilled, the decay is reduced to almost a minimum and the cost of icing is practically one-half.

FARMERS' INSTITUTES.

The department of agriculture of the University of California announces the following dates for Farmers' Institutes: September twenty-sixth and twenty-seventh, Ione, Amador county; October the fifth, Seabright, Santa Clara county, special poultry institute. On October fifteenth and sixteenth Institutes will be held Corning, Tehama county; on the seventeenth and eighteenth at Orland, Glenn county; on the nineteenth at Maxwell, Colusa county; on the twentieth and twenty-second at Arbuckle, Colusa county. Professor Warren T. Clarke, Superintendent of university extension in agriculture, Dr. C. M. Haring of the veterinary department of the university, Mr. C. Westergaard, instructor in farm mechanics, Mr. G. B. Lull, state forest ranger, and Mr. A. Warren Robinson of Napa, an expert in poultry management, will attend these meetings. The department of university extension in agriculture also announces Institutes under the direction of Mr. J. B. Neff, conductor of Farmers' Institutes for Southern California, as follows: October fourteenth, San Miguel, San Luis Obispo county; October fifteenth and sixteenth, San Maria, Santa Barbara county; October eighteenth and nineteenth, Lompoc, Santa Barbara county; October twenty-first and twenty-second, Compton, Los Angeles county; November eleventh and twelfth at Farmers' Hall, 12 miles south-west of Bakersfield; November thirteenth and fourteenth at Rosedale, six miles west of Bakersfield; December second, Banning; December third and fourth, Coachella; December fifth, Brawley; December sixth and seventh, El Centro; December tenth and eleventh, San Jacinto; December 12 and 13th, Elsinore.

AS THE PRODUCER SEES IT.

Dairymen, who have been charged since the rise in milk, with being in a trust, come to the front with a general denial that such a trust exists, and state that the recent rise was occasioned by the fact that feed has advanced to such a figure that it was absolutely imperative to advance the price of milk to make anything out of the business if not to avoid running behind. They state that formerly they produced milk on hay which cost \$10 per ton, bran which cost \$14 per ton and oil cake which cost \$20 a ton. Today hay costs from \$17 to \$20 per ton, bran \$27 an oil meal \$30. Labor costs from a third to half as much again as formerly, and all necessities such as lumber for barns and sheds, taxes and insurance bring the cost of production up where advance in milk was necessary. We do not look to see butter and milk go much lower until we are able to produce more of each, and we cannot extend our dairies very much without irrigation.

As irrigation is extended and alfalfa field spread, the industry will increase, but with the ever increasing influx of tourists and settlers it is a question whether dairymen will any more than keep step with our natural growth.

Dairying in California has a great future.

COMMON SCHOOLS AND THE FARM YOUTH

Continued from First Page

and perhaps an aquarium and a terrarium. Here the children will bring their flowers and insects and samples of soil, and varieties of corn or beans in their season, and other objects that interest them and here they may perform their simple work with implements and tools. Even if the teacher cannot teach these subjects, the room itself will teach. The mere bringing of such objects to school would have a tremendous influence on the children; patrons would ask what the room is for; in time a teacher would be found who could handle the subjects pedagogically. Now we see children carrying only books to school; some day they will also carry twigs and potatoes and animals and stones and tools and contrivances and other personal objects.

My plea, therefore, is that the school accept all wholesome conditions in which it is placed, and that it begin with the sphere in which the child lives. The working out of this philosophy is nature study (I know of no better term); and this philosophy goes deeper than mere manual training, or than arts and crafts studies, or than bare "self-activity." Nature study, as I conceive it, is not another subject, not something external or added to. It is a means of education, internal, central, essential, fundamental. In time nature study and agriculture will be as much a part of the country school as oxygen is a part of the air.

Agricultural Notes of the Pacific Coast

Northern California

Oroville is to have a new olive oil mill.

A pre-cooling plant is to be erected at Roseville.

Seventy-five dollars a ton is offered for figs at Oroville.

Hop market is somewhat stronger than for some time.

"More cars" is the cry of stock dealers at Red Bluff.

The initial farmers' institute at the State farm at Davisville, is to be held October 29th to 31st.

Fifteen acres of alfalfa near Woodland netted \$1605 this year.

Corning is to have a Farmers' institute October 15th and 16th.

The raisin crop this year is the heaviest which Colusa county has known.

The private experimental farm at Willows has ceased to experiment for the want of funds.

The Colusa Sun reports that Glenn county's rice fields makes one of the prettiest sights to be seen.

The vineyards of Yolo county are yielding the largest output in their history, says the Yolo Democrat.

Trees which were defoliated in Marysville are now in full leaf and some of them handsomer than ever before.

Colusa county hopes to take the lead as a butter producing section. A new creamery is expected soon at Princeton.

Producers at Yuba city are in hopes for a line of steamers to give better transportation facility than heretofore enjoyed.

Prune growers of Chico and vicinity will realize \$200,000, and the peach growers about one-half that amount, as the result of this year's output.

The California Inland Water Ways Improvement Committee, comprised of twenty-five members from all parts of the State, is to become guardian of the State's rivers.

Five hundred and forty-eight tons of beets were run through the Alta-California Beet Sugar Company's mill at Hamilton city last week. This is the biggest run for that mill this season.

The sugar beets produced about Woodland, in Yolo county, have been of such quality this year that farmers there are hoping for the establishment of a sugar factory in the near future.

The Petaluma Poultry Keepers' Association met and discussed the matter of arrest for poultry thieves, and took the first steps to raise a reward fund of \$500 to be given in case of arrest and conviction.

The Colusa Sun says that many northern Sacramento valley fruits which have heretofore been shipped under Los Angeles labels will hereafter go forward under labels giving credit to the community where the fruit is produced.

Few people realize the magnitude of the levee work going on in Sutter county. One hundred and fifty men and three hundred head of horses are engaged in one piece of work. This levee is to be constructed for a distance of 12,700 feet.

Central California

Muscat raisins are already being delivered.

Shipments of prunes have begun from Tulare.

Beans are commanding very satisfactory prices.

Pajaro valley fair opens at Watsonville next Monday.

Tulare county citrus fair is to be held December 3rd to 7th.

A special poultry institute will be held at Seabright, Oct. 5th.

Some exceptionally fine fruit is being shipped from Watsonville.

Many wells are being sunk for irrigation purposes about Hanford.

Tulare Grange makes fine exhibits at the Tulare county fair this year.

The display is the best ever was, the verdict regarding the Hanford fair.

The cool and cloudy weather has caused slower drying of raisins than usual.

Work is progressing satisfactorily in the big beet sugar factory at Corcoran.

Tulare State Board of Trade is making an effort to secure a cannery at that point.

The seedling season in the large raisin packing houses at Fresno is now fully on.

Two hundred pounds of cheese a day is the output of the Lake cheese factory at Hanford.

The hop louse has appeared in some of the yards and vigorous action is urged to wipe out the pest.

The C. C. U. is building a new packing house at Exeter to be in readiness for the coming orange crop.

Suits against the walnut growers for infringement on the walnut dip patents are being filed almost daily.

Turlock Journal says that spraying for the curl leaf and blight will begin in that section about November 15th.

"The coolest season in the memory of the oldest inhabitants" is the claim for the San Joaquin valley weather this year.

Smyrna figs about Turlock are said to be exceptionally fine this year, and the planting will be greater than usual this season.

The farmers of Turlock have organized and incorporated a society to advance the interest of that community and keep out Japs.

The reduction of fruit rates from San Joaquin valley points to Los Angeles will give advantage to the fruit and dairy produce shippers.

Chas. Rodgers, president of the Watsonville Orchardists' Association, says that the association will make a large exhibit at the coming Pajaro valley fair.

The department at Washington will send an engineer to take charge of the survey of Salinas valley in the expectation of extending irrigation in the near future.

At the regular monthly meeting of the executive committee Anti-Debris Association held in Sacramento last week, notice was served upon the Dredge Miners' Association to the effect that if they did not cease allowing debris to escape into the rivers and streams in the vicinity of Oroville, suits would be instituted.

Southern California

Santa Ana begins to feel it has its sugar factory almost within its grasp.

A large number of threshers are at work in the bean fields of Ventura county.

Southern California orange output is almost at an end for the season of 1906 and 1907.

The walnut harvest of San Juan, Capistrano, is more advanced than formerly at this date.

The Eastern Highlands Orange Growers' Association is about to install a pre-cooling plant.

A car of Fullerton Valencias sold in New York recently at a price running well up to \$5.80 per box.

Walnut growers are more determined than ever to win in the fight against the walnut dip patent.

Plant more walnuts is urged by many who see in that fruit the bringing of much wealth to California.

A new kerosene emulsion introduced by Commissioner Cundiff of Riverside county is proving successful.

Several sections of Riverside and San Bernardino counties were visited by a small sized earthquake last week.

The Pomona cannery is now employing about 250 hands each day, and its weekly pay roll is about \$2000.

The experimental date plantings made at Mecca by the government are proving more and more satisfactory each year.

Covina Farmers Club finds interest in discussing county division and joining itself to the Pomona county division movement.

The work of the Newbert protection district by which the Santa Ana river is to be controlled began near Santa Ana last week.

It is estimated that the California Fruit Growers' Exchange will handle 55 per cent of the oranges of California this coming season.

The Highlands Fruit Growers' Association finds expenses for this year lighter than anticipated, and from expense fund have refunded to the members \$3300.

Last year's output of walnuts in California was 5355 tons. Some claim this will be lessened this year, while others say this year's output will be fully up to the last.

Beets at the Los Alamitos sugar factory are testing exceptionally high and are all of fine quality this year. The daily average test has always been above twenty per cent.

The present campaign of the Oxnard sugar factory is said to be the most successful in its history. The tonnage is running high and the percentage is higher than before.

Tim Carroll, of Anaheim, who has patents on a wagon-dumping appliance, has begun suit against the Los Alamitos sugar factory and J. Ross Clark for \$100,000 for infringement.

Several sections of Southern California are circulating petitions urging appointment of J. W. Jeffrey as horticulture commissioner in place of Elwood Cooper whose term has expired.

The Coast

Seattle dealers are buying hay in Idaho, Montana.

Best ranch eggs are selling at Portland for thirty cents.

Cottonseed is quoted in Texas at \$19 to \$19.50 per pound.

Seed barley is commanding \$24 per ton in Spokane, Washington.

Prunes are being shipped from Albany, Oregon, by the carload.

It is now estimated that Oregon's hop crop will be about 110,000 bales.

Sheep in Southern Idaho are giving way under the extensive irrigation.

More farmers are now claiming Colorado land than at any time in her history.

The Angora Goat Growers' Association will meet in San Antonio, Texas, November 15th.

Owing to the shortage of the crop, Oregon hop growers are urged to hold back for better prices.

A company has been organized for the producing of copra in the Koolan district, Hawaiian Islands.

Prunes will be larger and finer is the claim of many prune-growing sections of the northwest.

More wheat will be marketed in Pullman, Washington, is the prediction of the Spokesman Review.

Horse shoeing is to be included among the courses of instruction of the Colorado Agricultural College.

Jingling dollars in their pockets makes the fruit growers of Wenatchee take on the smile that won't rub off.

Two carloads of hogs fattened on Spanish peanuts were recently sold at six cents per pound at Cameron, Texas.

The new town of Omak, near Riverside, Washington, is making an effort for the establishment of a sugar factory.

Hawaii exports to the United States \$29,000,000 worth of products and received from the United States over \$14,000,000.

The reputation of the Hawaiian pineapples has extended to Europe and fancy prices are now being paid for that fruit.

A Texas man has bought a large ranch and gone to elephant raising. He claims the elephant will do the work of six horses.

The Kona Vineyards Company, engaged in producing wines in Kona, Hawaii, has increased its capital from \$50,000 to \$1,000,000.

The Northwestern Horticulturist is appealing for a national nursery law which will give uniform regulations for nurserymen.

At the Colorado State Fair held at Pueblo, dry farming products took two hundred and ninety premiums over irrigated land products.

Prof. Withycombe, of the Oregon State Agricultural College, will hold a number of farmers' institutes in the latter part of November.

A fruit grower at Granger, Washington, secured seven thousand boxes of Winesaps and Jonathans which netted him \$1.50 per box, making a net return for one acre of \$1050.

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2 BUSHEL
SACK

\$1.90

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2 BUSHEL
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The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland.
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis and Clark Exposition."

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GUARANTEED ANALYSIS:

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Pure, Clean Animal Matter Poultry Foods

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Utility birds of the highest grade. They will average from 150 to 280 eggs per year. The eggs will average 2 ounces and over in weight, with smooth, white shells.

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CURES

FEED TO YOUNG CHICKS WILL KEEP THEM HEALTHY AND VIGOROUS; THE OLD FOWLS WILL MOULT QUICKER AND EASIER; PULLETS WILL LAY EARLIER AND LONGER

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Also Pioneer Manufacturers of High Grade Fertilizers.

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Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experiences with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

OLD HENS OR PULLETS.

THIS question is one that is asked us many times and especially at this time of the year. It is a question that has to be settled by most every breeder, for so many of us have a nice lot of well-matured pullets, so the problem naturally arises, shall we discard our old hens and depend on our pullets for laying this winter. This question, no doubt, has caused as much controversy and needless wrangling, as any problem that has to be solved by the beginner.

The primary cause of all this trouble is the attempt to make an arbitrary division of fowls into profitable and unprofitable producers, and draw the line at a certain age.

Profitable Age of a Hen.

This question, like the one of best breed, is a hard one to answer and as we have always said that there is no best breed, we might say also that there is no certain age when a hen should go to the block, as it depends upon the breed, strain, feed, care and management.

"There are many men of many minds Many birds of many kinds."

All are working under as many different methods and conditions, and a rule that that would apply to one age under the care, feed and treatment of one might be entirely wrong for a neighbor.

Generally speaking, when we refer to a hen, we mean from 16 months to 24 months old. Many of us don't keep our hens after they are three years old. A pullet, properly speaking, is a hen less than a year old. The period for which results are usually compared are from October or November until the following spring or early summer. At this season many of the early pullets are just beginning to lay. Many hens are not through the molt, so for the next 30 to 60 days the hens will not be at their best. We think it is better to give the flock a general overhauling in the fall and cull out those that are known to fall below the average as profitable layers. Do not leave any in the flock that you are reasonably sure are unprofitable, as every drone will cut down your profits, occupy room, take your time and attention.

Selecting Your Hens.

In all flocks of yearling hens are many that will not pay to keep over; many hens even at this age have outlived their usefulness, if they ever had any.

In selecting a flock we will divide them into three classes: Good hens, poor hens and medium hens, or hens that don't belong to either class.

To the first class belong those that are in good health and condition, bright looking and laying or about to lay. Hens that answer this description at this season of the year may be depended upon as being profitable. Those we have classed as poor hens are the ones that are not healthy, were not strong as chicks, were not good layers and are in poor condition.

The Indifferent Ones.

This leaves us some hens that don't

belong to either class. Many of them are good hens in poor condition; the point for us to consider is, can we by proper care and feed help their condition? Perhaps the most common cause for hens that have been healthy to be in a poor condition at this time of the year, is the constant strain upon their system caused by heavy egg laying. If these hens are put in a yard by themselves and given extra care and feed, we think the egg yield will be all that can be desired of them although it may be small at first. Yet, when fed back to condition, will lay most of the winter.

It certainly does not pay to keep hens over that are idle from one-third to one-half of the time, but we should think twice before we discard those that have proven themselves worthy of their keep for untried pullets.

AROUND THE YARDS.

If you raise scrub stock you may expect scrub prices.

Get your eyes on the good layers and the hatchet on the poor ones.

When molting show birds keep them under cover.

A poor little child of the New York slums in the country for a week, was found gazing with passionate interest at a lot of hens, and was asked if he had never seen chickens before.

"Oh, yes, I've seen 'em before," he answered; "but only after they were peeled."

Hens are never so happy as when they are knee-deep in straw and chaff digging for kernels of whole wheat oats or corn. This happiness is what makes them profitable, too. You never saw a hen that would lay many eggs if she were not happy all the time. It is the happy folks that do the world's business, anyhow.

Investigation of the capacity of hens to lay eggs results in the discovery that the egg production of hens decreases considerably after the age of four years. Thus, a hen lays at the age of one year about twenty eggs; at the age of two years, about 120; at the age of three years, about 135; at the age of four years, about 115; at the age of five years, about 80, and at the age of six years, about 60.—Successful Agriculture.

As a rule, extraordinary laying hens, particularly in their second year, will lay right up to the end of autumn or beginning of winter, and then molt, says Morgan Bates. Such hens require a little extra care at this time and usually come on to lay again in February. After they have been resting, the germs are stronger and generally the first few dozen of eggs laid will be fertile.

Various Questions.

1. May I ask, which is the best way to feed skim milk, while sweet or let it curd? 2. How is curd or bran mixed until it forms a crumbly mash for young stock, fed once a day? 3. Is it fattening or muscle, or bone-making food? 4. How would it do fed to laying hens? 5. I feel

im milk to my hens in a large ough which I leave in the sun; is at a good way, or should it be in e shade? 6. Is there much dan- of disease germs spreading that ay? 7. I would like to breed some oroughbred White Leghorns; ould you advise me to buy a trio of rds, or eggs and hatch them in an cubator?—Lloyd E. Edwards, West- inister.

1. Feed while sweet. 2. We ould rather feed milk while sweet ixed in a mash with brand, than to t. it curd. 3. We would consider ore a bone and muscle food, than ttening food. 4. If fed once a day ould be good for laying hens. Keep trough in shade and keep ean. 6. Not if your flock is althy. 7. If you are running an cubator and understand it, I would y eggs, or buy day-old chicks.

Wind Tumor.

I have a four-months-old Barred ock that has the skin on one side ery much puffed up with wind. hat is the cause and remedy? ave had small chicks affected the ame and they always died. We ould not discover any other com- lant. The one now affected has a old.—T., Santa Rosa.

No satisfactory explanation has ver been given. It accumulates nder the skin and forms a "wind umor" the size of a walnut. Rem- ly: Pick with a pin and allow the ir to escape. If it accumulates ain make a small incision with a arp instrument and annoint well ith vaseline.

Baggy Crop.

What is the cause of the bagged rop among my chicks? Largest es are the worst. Where can I et the Cornish Indian game?—Sub- riber.

Baggy crop is one symptom of ca- rrh of crop. Other symptoms are ffensive liquid and gases in the crop, nd the belching of the bird. There re several causes; among them is aking into the crop undigestible sub- jects, overloading crop, eating de- mposed meat, etc. Treatment: he crop should be emptied by hold- ng the bird by legs, head downward nd gently kneading the organ, forc- ng the contents out through the outh. Keep the bird without food or twelve to eighteen hours, and en feed lightly of easily digested ods. As soon as crop is emptied ve one grain of bicarbonate of soda nd one and one-half grains of sub- itrate of bismuth, in a dessertspoon f water once a day for three days. Write John D. Mercer of this city, or Cornish Indians.

Rheumatism.

Kindly tell me what is the matter ith my hens and how I can cure or op the trouble. They are Brown eghorns, one and one-half and two nd one-half years old and about 50 e lame. Some get well, but a num- ere die. They are regularly fed hree times a day, soft feed in the orning, chopd cabbage at noon and heat in the evening.—A Subscriber.

Either your birds have Bumble oot or rheumatism, as either will ause them to go lame. Bumble oot is caused by a bruise on bottom f foot, caused by constant confine- ment upon hard floors or runs, or by umping on hard surface from high erch or roost; if this is the cause ou can easily tell by examining oot. We rather think the trouble s of a rheumatic nature. Fowls are usceptible to rheumatism when ex- posed to cold and dampness, filthy nd poorly ventilated houses.

Treatment: Give 25 grains of Ep- om salts and put 35 grains of bak-

ing soda in each quart of water. Give two grains of salicylic acid twice a week until cure is affected.

They Don't Lay.

Can you tell me why my 125 hens do not lay better? They are full-blooded White Leghorns and perfect- ly healthy; are not troubled with mites, lice or fleas. I feed them a mash in the morning of Midland- Egg and Feather Food, about eight quarts mixed with water till crumbly, and in the evening about ten quarts of Egyptian corn and wheat mixed. They have green alfalfa to run to and I often give them green stuff out of the garden besides. I killed one to see if I could find a reason. She had about one-fourth of an inch of fat over her bowels and about a dozen eggs the size of a pea, all others smaller. They lay from three to eight eggs a day. They did not lay a year ago or through the winter, and we thought we had fed them too much grain while molting, so made them too fat.

They are not old. About 40 of them are only a year. Of course this isn't the time of the year for them to lay their best, but they ought to lay better than they do. They have plenty of good water and oyster shells, also meat when I can get it. Many times in the fall and winter I give them oats and cracked corn. I think I shall sell them down to 75. Won't you please give me the exact rations for that number? They run at large, but seem to lie around in the shade most of the time and do not act hungry only at meal times.—T. W. C.

We think you are feeding your fowls too much. Two ounces of feed per hen is enough for a bird at each meal. You ask for the exact amount to feed 75 hens. This is an impossi- bility; just as much as it would be for that number of persons; while I say two ounces is enough for any hen, yet some might do better on less and some might require more. The best way is to feed just what will be cleaned up at each feed; never allow food to lie around. The most satis- factory way of feeding laying hens is in hoppers or dry feeders; get some one of the well-balanced egg foods and put in a hopper dry.

We note what you say in regard to reducing your flock. When you do, take care to keep the layers or those about to lay. If you have no other method of culling, you can tell pretty well by watching for three days all that are found on the nest put in a yard, and those that don't lay once in three days sell. That, of course, applies after your birds have started to lay, and they ought to start before long. You may expect your birds to stop laying for a while during and following the molt.

A PROFITABLE LITTLE RANCH.

Since writing last week's article, we had the pleasure of a visit to a ranch containing about four acres, two acres of which was run to poul- try. This two acres contained the house and yard and feed house, barn, etc., so in giving our figures as to what Mr. and Mrs. Coles, (for this is the ranch we refer to) are doing, we will designate it as a two-acre poultry ranch.

We give what was done on this farm or ranch in one year, as Mrs. Cole was just figuring up her year's receipts when we were there, the year having ended the day before our visit.

Plymouth Rocks.

The birds kept on this ranch are thoroughbred Plymouth Rocks, Barred and White, and most of the product, (stock and eggs) was sold on the market, yet they sold some stock for breeders and settings for

Hen Fruit Pays. If you want more, feed

Egg-More

Poultry need to be fed a scientifically balanced ration as much as any other stock. Egg-More is just the thing to mix with good grains to make the same a rightly balanced ration. It is highly nitrogenous, very rich in protein, will keep the hen in good health, sustain her system properly, and enable her to lay lots of eggs when they are scarce and high. Just a little fed daily with good grains, or even with bran, as directed with each package, will do it. It can be fed either dry or as a mash. It contains no cheap filler; the hens like it, they eat it, there is no waste. It makes the cheapest Egg Food especially if you can buy your grains at home cheaper than to ship them in. Many so-called "poultry foods" and "egg-makers" are nothing but stimulants and not advisable to be fed regularly. Egg-More is not a strong tonic and stimulant, but merely contains enough condiments to give the food relish and keep the fowls in fine fettle. It will pay its cost many times over in the increased egg yield. 4-lb. package, 35 cents; 25-lb. pail, \$2.00; 50-lb. sack, \$3.75. If your dealer doesn't keep it, we will deliver a pail or sack freight prepaid by us.

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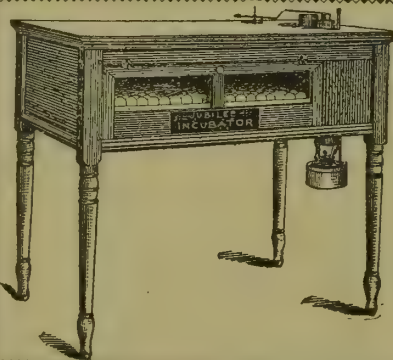
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on the ranch 710 head of poultry all
told, and at the close of the year,
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stock and every egg sold during the
12 months, excepting only, that used
on the table and given away.

Stock sold amounted to, \$303.57;
eggs sold, \$1268.05; total, \$1571.62.
Paid for feed, \$667.10, leaving for
their work a profit of \$904.52.

At no time during the year did the
number of laying hens exceed 325.
The others were birds of various
sizes and ages, but not in the yards
with the breeders.

PURE BRED POULTRY.

It is surprising to look over the
farms and see how few flocks there
are of large sized, productive, uni-
formly well bred birds. It costs no
more to raise a nine-pound pure bred
fowl than a five-pound mongrel and
the former will lay more eggs than
the latter. The house you build for
mongrels will do just as well for
thoroughbreds; your time spent car-
ing for them is worth more. The
average farmer who does not believe
in thoroughbred poultry would not
think of paying a fair price for a
setting of eggs, or making an outlay
for a few nice cockerels to head his
flock. As a result, the flock of poul-
try is a hodge-podge of all types and
colors. There are Barred Rocks with
rose combs and feathers on their
legs. They are "just chickens." How
different it is to look upon a
flock of thoroughbred fowls. The
birds are all the same in size and
color. They act the same. There is
something in the scene that gives
one a determination to take more
pains with his own flock. Become
thoroughly acquainted with the
strain of your birds. Aim to make
them as nearly perfect as possible.
There is always a demand for eggs
or fowls from a good breed.

How much more profitable it is to
receive from \$1 to \$1.50 each for sur-
plus cockerels than the common mar-
ket price of 40 cents or 60 cents each.
How much better to sell eggs at one
to two dollars per setting than to re-
ceive 12 to 15 cents per dozen at the
stores. What is desired by many
farmers is a strain of vigorous birds
true to their type but not high class
show specimens. Every farmer
should have a sufficient amount of
pride to take the extra trouble to
maintain, at least, a moderate degree
of excellence among his fowls. Well
bred birds are attractive anywhere.
They will outweigh the mongrels;
they have proved to be better layers.

Farmers may profitably purchase
birds or eggs from a strain of pedi-

greed laying fowls. No great amount
of money need be expended. A few
well bred birds or a few settings of
eggs are all that are necessary.

THE AMATEUR POULTRYMAN.

The amateur who is just starting
into the poultry business must be
willing to begin at the bottom and
work up. He will encounter many
obstacles, but if he has a sufficient
amount of stick-to-itiveness in his
makeup he will succeed. His rise
may be slow, but there is room at the
top. The mushroom poultryman is
short-lived.

The selection of the breeds neces-
sary depends upon the kind or kinds
of products desired.

If egg production alone is sought
then some of the Mediterranean
breeds are to be selected.

If meat alone is the desideratum
the selection should be made from
among the Asiatics.

But if both meat and eggs are de-
sired, either two breeds must be se-
lected and maintained or the selection
must be confined to the American or
dual-purpose group.

The selection of the breed is im-
portant, but the maintenance of the
purity, vigor and health of that
breed is vastly more important.

If purebreds possess merit over the
scrub, the truth of which no well in-
formed person will undertake to con-
trovert, it would seem to be desirable
that the identity of the breed should
be maintained.

Therefore, the selection of the
breed must be followed by proper
methods in handling. Otherwise, the
the good results sought through the
selection of thoroughbred fowls will
hardly be realized.

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mens for immediate disposal. Prices that will
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General Agriculture

THE RUSH TO THE CITIES.

ONE OF THE most disquieting features of the social condition of our times is the rush of young men to the cities. Resulting from this is the weakness and inability of the farming population as compared with the same class half a century ago. Steadiness of national character goes with firmness of foot-hold on the soil. We may well look with alarm on a condition in which men of wealth and power shall be gathered in the cities, while the farms are left to the weak and inefficient or to the peasants of other nations. As matters are, the cities are great destroyers of human life. We have not learned properly to govern them nor to make them effective, and every city is full of human failures, results of misdirected effort. A tour of the principal streets, halls and meeting places on Sunday evening in any great city will show how terribly true this is. Certainly one-fourth the present population of such a city as San Francisco, for example, has no real business there. These people are doing nothing which is effective for themselves or helpful to others, and the condition of the other three-fourths, and most likely their own condition, could be distinctly improved if these misfit persons would go back to the farms.

No one can succeed in city or country unless he is able or willing to do some one thing well and to stick to it. Because the life of the country is simpler and more honest, it is easier for a man of moderate ability to get into it. I call it more honest because the farm life deals with nature at first hand, while the city life deals with the shifting relations of men.

"The farmer trades with nature through no middle-man. Nature is as honest as eternity and she never fails to meet the just dues of those who have claims upon her."

In the city, opportunities to gratify ambition are more numerous and greater than in the country. But opportunity comes only to the man who can make use of it. For a man who can do important things and can do them well, the city will always furnish something worthy to do. Hence, the success of thousands of men who have gone to the cities with their worldly goods on their backs and no capital but their brains.

But the great majority of those who leave the farms are not of this type. They have not learned to do anything well, least of all anything the people of the cities want. Hence the failure of those who go to the cities without capital of any kind, or with capital of other kinds than brains.

The great obstacle in the way of the effective working man is not organized capital. It is in efficiency. It is the great crowd of those who can do nothing well and whose presence causes a general scramble whenever there is any work to be done. Capitalists would and would double the wages of labor if they were assured of intelligent, effective and loyal service. Brains and heart are the only servants that a man can afford to pay for. If you cannot furnish one or the other of these, there is no help for you. You cannot live by the work of your hands. Least of all can you do this in the city where competition

is severe, and where three men are struggling for the chance to do the work of one.

There is no doubt that the congestion of the cities is in part the effect of the unwise legislation. We have used every effort to be something more than a nation of farmers, and in this effort we have almost ruined our farms. But legislative action is not the main cause of the congestion of the cities. The other causes are bringing about the same result in all civilized nations. Even Rome has had a "real estate boom," an unfortunate condition which arises as the people crowd into the capital. It is not clear what the end will be or how the evil will find its remedy.

But this we may say to every

farmer's son: You have your own life to make. In the country you are sure of your ground. You will get what you deserve. While your rewards may not be brilliant, your failure will not be ruinous. Do not go to the city unless you are sure that the city needs you. If you go there with nothing to give that the city cares for, you will find yourself cast aside. Brains the city wants and will pay for and devour. Loyalty of service will be recognized and valued in this world or any other. Handwork pure and simple, without skill or pride in it commands no price in the market. There is no chance about this. The results are sure as fate. If you do poor things poorly, you will always be poor. What you can do, a bucket of coal and a bucket of water, guided by a thimbleful of brains will do more effectively. When the time shall come that each workman can

use his power to the best advantage, we shall have an end to the labor problem. The final answer to the labor problem is that each shall solve it for himself.

When you have solved the labor problem for yourself and are ready with the answer, then you can go to the city, and wherever you go you will find the success you deserve. If all men waited as you should wait before rushing to the cities, we should have no labor problem, no problem of municipal government and nothing to fear from the desertion of the farms or from the congestion of the towns. Learn to do something well. It will make a man of you, and wherever he goes a man will find that he is needed.—David Starr Jordan, in California Advocate.

Five fumigating outfits and thirteen spraying outfits are operating in Riverside county.

The Shape of a Plow

from the share-point back a third of the way across the mould board determines whether it pulls heavy or light. Three-fourths of the friction comes on this part, and this part of a John Deere plow bottom is shaped to split the ground like a thin wedge splits a stick of wood—that's one reason why John Deere plows are easy on your horses and economical for you—why the John Deere is the lightest draft plow in the world—and why there are more of them in use than any other three makes combined. We sell the John Deere plows, and carry a large stock of farm machinery. We want your business.

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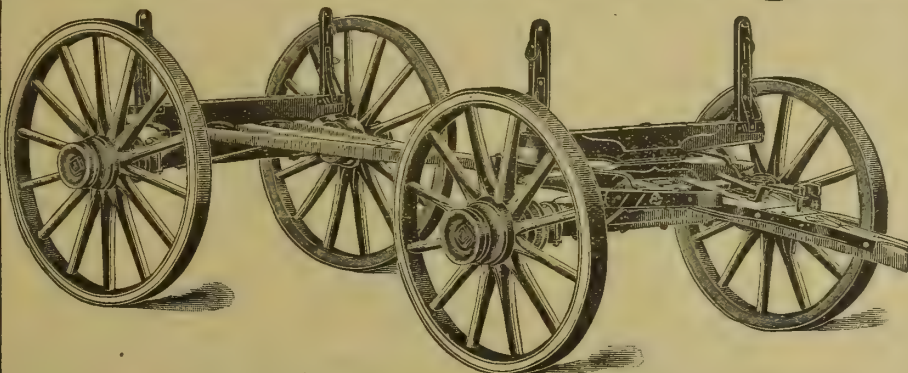
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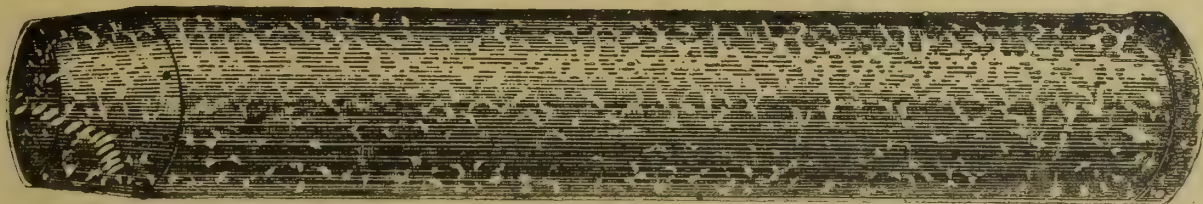
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Anyone who is of legal age can take up a timber claim. The cost to you in securing a timber claim through us is as follows: \$200 to us for our services in making your location and assisting you in making your entry; \$2.50 entry fee to the government. Ninety days after the entry you pay the government \$398.50 and get your title. Total cost, \$600. After your title is perfect, you can sell your land with its timber for from \$4000 to \$5000 or sell the timber alone at \$1.50 a tree and average \$4000 to the claim.

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Queries and Replies

Onions.

Please tell me where I can get information about growing onions in California. I expect to put out about five acres and wish information as to tools, kind of seed, etc. I wish to plant five acres and if prices remain as they are now I expect to clear \$2500 a year. I prefer this to being where the steam whistle will call me to work for someone else, and where I will have to take my pay handed out in an envelope. No more of that for me. I propose to be monarch of all I survey. My right there—none to dispute, for I shall be master of the field and brute (if only five acres square.)

For I am weary of this strife for millions

And will hike "to the country and and go to raising "onions."

Please don't class me as an agricultural poet

For very soon my hands and feet won't show it.

My city friends think me foolish and wanting common sense

But I tell them wait and see my onions on the other side the fence.—W. A. D., Monrovia.

Our advice to our friend would be to go easy and not too fast in planting his full five acres the first year. It will take some hard work and water and a whole lot of experience to pull through five acres of onions and from the tone of our friend's letter, we take it his experience is very limited in the raising of onions. First, we would study conditions about Monrovia and find somebody who has made a success under the soil and climatic conditions of that section and learn the variety best adapted. Right ground should be secured and plowed, after which it should be put in thorough tilth to receive the seed. As to its future care, we quote from California Vegetables:

After seeding, thorough, shallow cultivation is essential. Do not wait until the plants are up before beginning; from four to eight days will be proper, or when the seed begins to show signs of germinating, which can be ascertained by carefully brushing the soil from the drill row. I put the curved hoes on my wheel hoe, with the straight ends of the hoes pointing inwards and lapping about two inches and hoe right over the rows, but not deep enough to disturb the seed. It saves a great amount of hand weeding by killing the weeds just starting to grow in the rows. As soon as the onions are up sufficiently to follow the rows, I reverse my hoes with the curved ends next to the rows, just far enough apart so as to hoe as close as possible without cutting the young plants by running the hoes astride the rows. This operation hoes both sides of the row at one trip of the machine. Follow this by hand weeding; this operation is best performed by the crawling process, that is by getting down on hands and knees astride of a row and pulling every weed in sight, and loosening the soil around and between the plants. Repeat this as often as any weeds are to be found, and under no circumstance allow the weeds to grow above the onions; at the same time keeping the wheel hoe at work between the rows and as close as possible.

As previously said, the bulb of the onion should be at the ground surface, and the dirt should not be thrown to any extent on the onions by cultivation. The roots should be well covered, but not the bulb.

Fertility in Soil.

Please answer how can I tell whether there is sufficient potash, lime, or phosphoric acid in the soil?—Mrs. F. E. S., Atwater.

The best way is, perhaps, by actual experiment. That is, by planting of check rows of your crops, some without any potash, others with potash. If where the potash is added better results are obtained, it is fairly evident that potash is needed. The same with the other elements. However, if you should wish an analysis of the soil, write to the Agricultural College, University of California, Berkeley, and ask for blanks which will give you instructions how to take a sample of the soil to send to the University, which, when received, will be analyzed and you will be furnished with copy of the analysis.

Frost Protection.

Will you kindly give some items in regard to smudging citrus trees to prevent damage from frosts?—Old Subscriber, Corona.

Smudging has practically been superseded by the heat process; that is, by building fires that create sufficient heat to raise the temperature. The smoke proposition used as a "blanket" to hold in the latent heat was found to do some damage by smutting the fruit and but little good in holding the heat. The form of fuel mostly used has been briquettes largely manufactured in Los Angeles, and sold very cheaply. With properly constructed stoves these give the largest amount of heat for the least amount of money.

Book on Horse and Cattle Breeding.

Please tell me where I can secure the best treatise on breeding and raising horses and cattle.—Subscriber, Corona.

If you wish general information on various breeds of farm animals "Types and Breeds of Farm Animals" by C. S. Plumb of Ohio State University will give information. This book is published by Ginn Co., Boston, Mass. Same firm has also in press "Principles of Breeding." As to feeding animals "Feeds and Feeding" by W. A. Henry of the University of Wisconsin is one of the very best. Either of these books can be supplied from this office if desired.

Onion Seeds or Settings.

I would like your advice as to planting onions near Antioch, Contra Costa county. Would you advise sowing seed or putting out settings, and at what time would you plant? How many seeds will it take to the acre, and what kind of onions are best?—Miss H., Lodi.

Planting with seed will be cheaper, of course, and will require about two months longer to secure a crop. Hence you will probably be governed as to when you wish to reach the market. Seed planted now will probably give you your crop ready for the market in March. If you plant seed, the most common method of culture is to drill seed thick in the rows quite shallow, and rows from 12 to 24 inches apart. After plants are as large as pencils, thin out to about three or five inches, according to the variety, transplanting those taken out to about the same distance, after cutting back the tops and roots, or they can be

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It is proof against water because it contains nothing which is soluble in water.

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grown thickly in beds and transplanted to rows. Can be sown any time of the year, and really there is no excuse why fresh onions cannot be had every day in the year.

As to varieties, gardeners in the immediate vicinity in which you wish to plant would be the best authority, but if you wish to have something extra fine the "Crystal Wax" the seed of which is now \$1.00 per pound, is fine.

Pruning Peaches.

It is best to prune peach trees before or after the early spraying in December?—A. L. P., Sanger.

For sake of economy would advise early pruning and spraying after brush is cleared away.

Paspalum Grass.

In answer to a dozen or more queries as to Paspalum grass, about

which an article appeared in the Cultivator of August 22d, we may say that we have written to the author of the article in New South Wales, also the Department in Washington, and others qualified to give more complete information.

The statements of that article would indicate this grass to be an extremely valuable one in Australia, and if it is found to be advantageous to California, and in no way in danger of coming a pest, as Bermuda grass is, may prove well worth introducing.

Rich Feed.

I have a colt that is continually baling. Is in good condition and its. I cannot find any vermin on it, but small lumps rise upon her when she rubs them raw. Can you advise what is wrong with her and remedy?—W. I. Y.

Our filly is fed too high; cut down the feed a little and give her Ep-salts in feed daily, about three teaspoons at a time. Externally wash thoroughly with soap and water. Then sponge over with the following: Water, one quart; euphorbia, three ounces; a few applications will affect a cure.—W. J. Oliver, V. S.

Guernsey Cattle.

Please give information as to whether there is any Guernsey stock in Los Angeles.—S., Dulzura.

The J. M. C. Marble Co., of Los Angeles, has the largest herd of Guernsey, we believe, in Southern California.

Johnson Winter Rhubarb.

Can you tell me how long the stalks of Johnson Winter rhubarb grow?—L. H., Long Beach.

I have seen rhubarb stalks three feet long and as large as a child's arm. On the other hand, from the seed of the true Crimson Winter there are plants which would not produce stalks more than a few inches in length and very small. In fact, the seed from Crimson Winter gives plants of great variety, and some can be raised under any form of culture, be they raised into giving long stalks. By proper selection and great care in raising up, we believe large stalks

Veterinary Instruments, Black Leg and Trax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles.

may be produced on the greater portion of the plants. However, we believe this prevails on the higher colored, and some think that the better flavored stalks are not those of the greater size.

High Headed.

I have an Orange Cling peach tree. I think it is twenty feet high and is twelve years old. We thin it every year, but it is too high. How much and when can we trim it down?—C. A. R., Riverside.

It will be hard and probably impossible for you to make a fruit tree of that age into a low-headed tree, but then it can be helped some by pruning back heavily during the dormant season, which will be two or three months later. This heavy cutting back will probably reduce your fruit for the first year, but will give a new top which will give a larger amount of fruit than you are now securing. Instead of cutting out entire top, occasional limbs may well be taken the first year, with balance of tree next year.

Trimming Back Peaches.

Is it proper to cut back or head in peaches at this time of year, or should I do so later?—L. L., Selma.

It will be better to defer your pruning until the tree is entirely dormant, either in December or January. Then if it is a young tree, cut back two-thirds of the present year's growth. Where dense, thin out some of the old growth. Also cut out cross limbs and others which throw the tree out of balance.

Planting Peas.

When can I plant edible peas?—B., Pasadena.

Peas are planted anywhere from the 1st of September to the 1st of June. A great many of them are being planted at this time, as they will be ready for use about Christmas time.

Planting Eucalyptus.

I have a few thousand red gums (E. Rostrata) which were planted too late for last year's setting and are now from two to four feet high. At what time of year can I remove them from the seed bed to the field, and should they be cut back when set.—An Easterner.

For practical cow milking machine see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles.

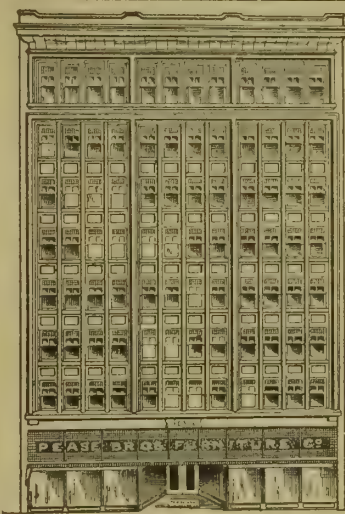
We are afraid our new friend has allowed his plants to get beyond him, and that they have become too large to be transplanted safely. Transplanting younger at this season of the year, unless in sections of very light frosts, would be attended with considerable risk, but in any case transplanting of Eucalyptus trees two to four feet high will have to be done with the greatest skill to make them live. They should have been taken from seed bed and put in pots or cans when but a few inches high, from which they could now be transplanted to the field with practically no risk. If they are now in the seed bed far enough apart so that quite a ball of dirt can be taken with each, it is

possible they may be satisfactorily removed at once. Of course it is barely possible, by cutting back heavily and moving the bare roots, some may be made to live, but we fear only a small portion. Now is a good time to sow seed for next spring's planting.

Onions.

Another query regarding onions has been referred to Mr. Lobingier, who will give us an article on planting and care of onions at some later date.

A number of interesting queries are necessarily crowded over till next week. Next week's query pages will be worth waiting for.



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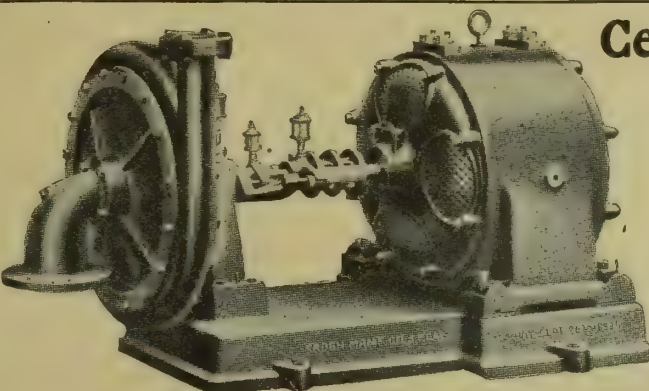
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1 pint XXX Fla. Extract, Lemon or Vanilla, or 2 lbs. our celebrated 40c Mocha and Java Coffee.....	.75
2 lbs. S.C.S. 75c Tea, any flavor, or 3 lbs. our Celebrated 40c M & J Coffee.....	1.00
1 Jar Heinz Apple Butter.....	.50
5-lb. pail Pure Leaf Lard.....	.75
1-lb. tin Baking Powder, Eastern Pure.....	.30
10 lbs. Cream Rolled Oats.....	.50
8 bars Fairbank's Laundry Soap.....	.25
1-lb. tin Lowney Ground Chocolate.....	.35
1 package Columbus Wheat Flakes, premium.....	.25
1 bot. Eng. Worcestershire Sauce.....	.25
2 lbs. Thread Coconut.....	.35
Total for all unchanged.....	\$6.00

SPECIALS.

Safety Matches.....	.55
Press Matches.....	.50
Domino Matches.....	.50
Sulphur Matches.....	.15
Corn Beef, 2-lb. tin, guaranteed.....	\$2.00
Rolls Oats.....	.25
Flaked Rice.....	.10
Toasted Corn Flakes.....	.12 1/2
Solid Pack Tomatoes, 1-lb. tins.....	.50
Welch's Grape Juice, pints.....	.45
English Breakfast Tea.....	.15
4-lbs. Chunk Codfish.....	.25
100-piece Decorated Dinner Set.....	9.00
30-piece Plain Dinner Set.....	2.75

October List is ready to mail.

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LOOMIS MACHINE CO., TIFFIN, OHIO.

Household Department

WHAT CAN YOU DO?

That's what the world is asking you.
Not who you are,
Not what you are;
But this one thing the world demands—
What can you do with brain or hands?

What can you do? This is the test
The world requires; as for the rest,
It matters not,
Or who, or what
You may have been, or high or low,
The world cares not one whit to know.

What can you do? What can you do?
That's what the world keeps asking you
With trumpet tone,
And that alone!
Ah, soul, if you would win, then you
Must show the world what you can do!

Once show the world what you can do,
And it will quickly honor you
And call you great;
Or soon or late,
Before success can come to you,
The world must know what you can do.

Up, then, O soul, and do your best!
Meet like a man the world's great test.
What can you do?
Gentle or Jew,
No Matter what you are, or who,
Be brave and show what you can do!
—The Watchman.

MISS TREVOR'S WARD.

"ARE WE quite through with mail, Miss Trevor?"

The young woman at the desk by the window looked up.

"Quite through with your share of it, Mr. Renwick. My share is a little larger than usual." And she bent again to her task.

He pointed to the package before her. "And those are all begging letters?"

"Most of them are begging letters. A few are merely annoyances."

The old man sighed. "It's strange how they persist in writing. They must know I never give indiscriminately. Perhaps the same sort of fever impels them to write to me that allures them into buying the lottery tickets. And you don't find one among them makes an honest or a worthy appeal?"

"Not one, Mr. Renwick."
"I trust you are not getting hard, Miss Trevor. You are too young to be cynical."

"I don't think it's going to hurt me, Mr. Renwick. You have asked me to stand between you and these letter writers. It hurts me a little to find there are so many people who are willing to humiliate themselves, but I know that honesty and independence and pride still exist in the world, and that I am simply doing my duty when I deliver you from beggars and sycophants."

The old man watched the quick fingers working as the girl filed away the letters.

"What is your ambition, Miss Trevor?"

He had a way of speaking out abruptly, and his question did not surprise the girl. "To give my mother a good home, and to lay by something for the rainy day that we talk about and never expect."

"A modest ambition," said the old man. "But have you never thought of marriage and a different sort of home?"

A soft flush tinged the girl's cheeks. "I am thirty," she answered, "and quite hopeless."

He shook his head. "Then you are wilfully hopeless. But you have thought of it?"

The flush deepened. "Years ago," she murmured. "I was quite young. It was all like a dream. The wedding day was set. He never came."

The old man frowned darkly. "You were well rid of him," he growled.

"I tried to think so, but it was hard, very hard. I'm afraid it robbed me of some of my faith in humankind."

"Because one man played you false," cried the old man. "That isn't fair. And did you find out what drew the unworthy fellow away?"

"It was another woman. I heard the story afterward. He had been wavering between us. It was the other woman who won." She sighed. "I was only twenty then."

The old man eyed her keenly. "I fancy," he said, "that you are a great deal happier today than you would be if you had married that unworthy fellow."

"No doubt that is true," she answered. "Yet somehow I can't help wishing that I had won him—instead of the other woman."

"The eternal feminine," muttered the old man. But there was no sarcastic chill in his words.

"I don't know why I have told you this," said the girl presently. She hesitated. "I think it must be because this is the anniversary of the day that should have been my wedding day."

Her face was hidden from the old man. Her eyes were on her work.

When he spoke his voice was very gentle. "You have paid me a compliment by telling me," he said. "I have won such a reputation for hardness that I am grateful to know that someone can treat me as a sympathetic friend." He paused.

"You speak of an anniversary," he said. "I am included to look upon it as the anniversary of your deliverance. You give it a more sentimental significance. That is natural. But it has just occurred to me that you might want to mark it in some practical way. Perhaps by helping a needy sister. Perhaps by making marriage possible for some worthy pair. You will know how to use this remembrance. Miss Trevor, you and I have given away great deal of money—and you have saved me many times from giving unwisely."

The girl looked up.
"You are very kind, sir," she said, "and very thoughtful. But just now I can think of no way to—to utilize your suggestion."

"The way will undoubtedly be made clear, Miss Trevor. Let me know when you find it."

He leaned back in his chair again, half closing his eyes. His thoughts were busy with the past. There was a girl—yes, she was very like this girl. Her hair was brown, her eyes were dark and serious. He had fancied her as a boy, and when he grew to manhood his dearest vision—he had visions then—always placed her by his side. But he was too poor to think of marrying, and she wedded the son of the rich miller—at least he passed for rich in those dull days.

The old man grimly smiled. He could buy the rich miller a thousand times over. And yet in that day he would have looked upon \$500 as a fortune. With \$500 he would have dared to ask the girl to marry him. Very likely she would have refused. Perhaps it was all for the best.

The girl looked up. "I beg your

pardon, Mr. Renwick," she said, "here is a letter that is puzzling. I am a judge of such things, it is an honest letter, and yet somehow worries me."

"Let me hear it."
"It purports to be from a child. I feel quite sure it is inspired by older head." She spread out the crumpled sheet.

"Dear Mister Renwick, I am a little boy, and nobody knows I'm writing this to you, 'cause papa and mamma are both too proud and would be very angry if they knew I was writing. Papa had money and we were so happy, but he sign a paper for a friend and the friend was not an honest man, and papa lost all his money. And now papa has rheumatism in his hands and he find it is hard to get work, and mamma hasn't been well since baby Joe died and the rent is three months due and the man says we must pay or leave and I haven't any shoes to wear and mamma cries most all the time. Please, can't you help us with a little money, dear Mr. Renwick, 'cause we are so poor and very worthy. I hear papa say that if he had \$200 it would put him on his feet again. It would be so little to you and so much to us, Mr. Renwick, and I would pray for you every night. Please send soon to 29 Court alley, upstairs, back room to Mister James Desmond. That's papa and I'm little Jack."

The old man nodded. "Quite evidently a fraud," he said. "Little Jack piles it on too thick. Why let it worry you?"

The girl faintly smiled.
"I don't know why it should," she answered. "But it does." She hesitated. "I think," she said, that I will investigate it personally, this evening.
"Court alley," mused the old man. "That's not a savory locality. I will send Brown with you. He will talk with the motor car at 7:30."

When the old man entered his office the next morning the girl was at her desk.

"What did you find out, Miss Trevor, concerning the boy and the letter he wrote?"

"Quite enough, sir. The people were what I expected. The man is a vagabond, and the woman a poor creature with an appalling taste for strong drink."

"And the boy?"
"There is a boy, but he isn't related to them. The boy is better than his surroundings. He told me the woman made him write the letter and send it to you. The boy is an orphan. His father died four years ago, and his mother a year later. His only home since his mother died has been with this wretched pair."

"He should be taken from them," said the old man.

"I have arranged to take him," the girl responded. "I bought him from the people. He will be brought here this morning."

"And what will you do with him?" the old man asked.

"I mean to adopt him."

He drew down his thick gray eyebrows.

"Isn't this a great responsibility?" he gently asked.

"I have no doubt it is, but I mean to assume it."

A clerk appeared in the doorway. "Beg pardon, sir, but there is a child here asking for Miss Trevor."

The girl sprang up. "It is the boy," she said. "May I—may I bring him in?"

He was a handsome little fellow of

at years, with thick brown hair and brown eyes. His clothes were shabby, but his face was clean and his curly hair was fairly smooth. Mr. Renwick, this is Jack—Jack Ainslie."

"How do you do, Jack Ainslie," said the old man, and took the boy's hand.

The boy looked at him with frank surprise.

"Did you get my letter?" he asked.

"Yes."

"She says it was naughty to write. But I wouldn't if Mother Desmond hadn't told me. Why, I didn't even have a postage stamp."

"We understand, my boy. And so you are going to have a new home?"

"Yep, I'm going to live with her," he told me.

"And you are going to try to deserve all her kindness?"

"He nodded. "Yep. I'll bet she ain't the kind that knocks kids around. She's mighty good to me."

The old man raised his head with a quick smile. Miss Trevor was gazing at the boy with an expression on her face that he had never seen there before. For the moment it seemed to him that she was beautiful.

"He caught his wondering glance and smiled. "That will do, Jack," she said. "You may sit over there until I can take you away."

Miss Trevor came a little closer to the old man's desk. "You may remember that I told you that yesterday was an anniversary?" she said to him in a low tone.

"Yes," he answered, "I remember."

"He drew her breath quickly. "This is his son."

The old man looked up. "The son of the man who was unworthy?"

"Yes. There is no mistake about it. He bears his father's name. He is his living image. They were very dear and very unhappy."

"He paused and looked away.

"And this is why you want to adopt him?"

"Yes."

"He looked at her for a moment. "I remember right, he gently said, suggested that you should mark the anniversary by some special act of kindness. You have done so—now I ask you to let me add my share." He made some figures on the paper pad before him. "I propose to put this amount in the bank as a Jack Ainslie fund," he said, "with Mary Trevor as sole trustee. I think the same will be quite sufficient to support and educate your ward until he reaches of age."

"He drew aside his hand so that she could see the figures. The tears rushed to her eyes, her lips trembled.

"Thank you," she murmured brokenly. Then she turned quickly and went back to the boy.—W. R. Rose, in Ireland Plain Dealer.

LITTLE HELPS BY THE WAY.

"You worsted in the fight?"

"Laugh it off."

"You cheated of your right?"

"Laugh it off."

"Don't make tragedy of trifles, don't shoot butterflies with rifles—"

"Laugh it off."

"Does your work get into kinks?"

"Laugh it off."

"Do you near all sorts of brinks?"

"Laugh it off."

"If it's sanity you're after, there's no recipe like laughter—"

"Laugh it off."

—Old Epitaph.

RECIPES.

Green Tomato Pickle.

Two gallons green tomatoes, sliced without peeling; twelve good-sized onion sliced; two quarts vinegar; one quart sugar; one tablespoon allspice; one tablespoon ground mustard; two tablespoons black pepper. Mix all together and stew until tender, stirring often to prevent scorching. Put up in small glass jars. This is a pleasant sauce for almost every kind of meat and fish.

Chili Sauce.

Twelve large ripe tomatoes, two large onions, three ripe or two green peppers, three cups vinegar; two tablespoons of sugar, one of ginger, cloves, cinnamon, allspice, two of salt; boil until it thickens. One quart of canned tomatoes may be used instead of the fresh ones.—M. P.

Egg Gems.

One cup chopped cold meats, one tablespoon melted butter, one cup bread crumbs, salt and pepper. Mix together the meat and bread crumbs. Add the butter, salt and pepper, and enough milk to bind together nicely. Fill well greased gem pans with the mixture. Break an egg on top of each, season with salt and pepper, and sprinkle with cracker crumbs; bake eight minutes.

Escaloped Potatoes.

Melt a small piece of butter and two very thin slices of cheese in a frying pan; bread in the number of eggs you wish to use; drop small pieces of butter over them, season with salt and pepper, then sprinkle thickly over the top nice bread crumbs; place in the oven and let remain until the yolks are of a jelly-like consistency; serve at once.

HOMELY HINTS.

A piece of pumice stone is the very best thing to scrape and scour iron kettles, or any utensils that will not be injured by scratching.

When ants are troublesome sprinkle sugar through a small piece of sponge and leave these about the pantry shelves. In a short time the ants will be holding a high carnival. Plunge the sponges in boiling water and set again.

A good remedy for keeping moths out of furs and woolen pieces is to wrap the fur tightly in a piece of newspaper that has been soaked in turpentine.

Place in an old pillow case or bag. There is absolutely no danger that the moths will disturb any piece so treated.

When ivory handles have turned yellow rub them with turpentine and it will very shortly restore their color.

To prevent hardwood floors from being marked, put pieces of thick felt the exact size of the tips of the chairs and fasten on with a strong glue. The felt is far less expensive than rubber tips and will wear much better. Rocking chairs may have a long narrow strip glued on.

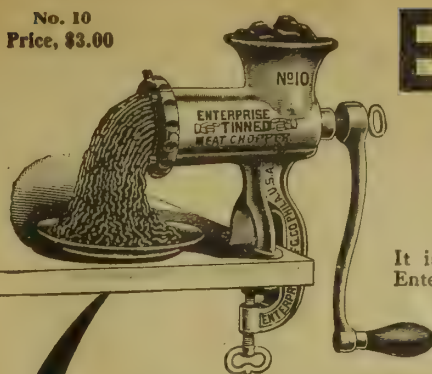
PROPER SIZE.

"Yes," said the conscientious dealer, "this hammock will hold two persons, but it will be a tight squeeze."

"Oh, that will be all right," replied the blushing maid. "Just send it around to the house and charge it to papa, please."

To cleanse the hair and promote its growth, rub the yolk of an egg well into the scalp and rinse out thoroughly with warm water.

No. 10
Price, \$3.00



**Better
To Own
Than to
Borrow**

The Enterprise Sausage Stuffer is another indispensable machine when making sausage. It is also a perfect Lard and Fruit Press. Be sure the name "Enterprise" is on the machine you buy. Can be had at Hardware and General Stores, etc. Write for the "Enterprising House-keeper," a book of 200 choice recipes and kitchen helps. Sent free.

THE ENTERPRISE MFG. CO. of PA. 240 Dauphin St., Philadelphia, Pa.

ENTERPRISE

Meat and Food CHOPPER

It is really better to own an Enterprise Meat Chopper and cut your sausage meat easily, quickly and well, than to trust to a borrowed machine to "rind" it. The

No. 5 Enterprise Chopper costs only \$2. No. 10, shown in cut, \$3. They are standard family sizes, and not only save half the work at butchering time, but are useful in the kitchen every day in the year. Enterprise Meat Choppers cut the meat with a revolving steel knife against a perforated steel cutting plate without crushing, and make tough meat tender. Easily cleaned, practically unbreakable, and will last for years. Made in 35 sizes and styles for Hand, Steam and Electric Power. We also make cheaper Food Choppers, but recommend the above for the reasons given. Illustrated Catalogue free.

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FOR SALE—YOUNG PURE BLOOD SWISS Toggenburg buck. SWISS GOAT DAIRY CO., 130 Carey St., Pasadena, Cal.

REAL ESTATE WANTED.

WANTED—TO RENT—A SMALL RANCH fitted up for poultry. Give full particulars and terms. J. D. MABEN, Ontario, Cal.

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WANTED—100,000 PURPLE DAMAS-cus grape vines or cuttings. Advise immediately with price. Imperial Valley Nursery, BOX 31, Imperial, Cal.

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FREE—"THE POULTRY MANUAL," BY those high authorities, F. L. Sewell and Ida E. Tilson, profusely illustrated. Send us the names of twelve persons keeping any poultry, and we will send it to you absolutely free and postage prepaid. WEST COAST STOCK FOOD CO., 813 San Fernando St., Los Angeles, Cal.

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EUCALYPTUS TREES—ORDER NOW AND have your choice of any variety at any time, of any size. A. L. HURTT, San Bernardino, Cal.

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MALTESE HEN PIGEONS, ALL COLORS. Runts, blue, silver, red, yellow. Write us your wants; correspondence a pleasure; satisfaction guaranteed. W. H. ELLIOT, 728 North Ave. 68, Los Angeles, Cal.

FOR SALE—100 HOMERS, NEARLY ALL mated; mostly Blue Bars and Blue Checks; guaranteed healthy, vigorous birds. \$30 takes them. KLONINGER BROS. CO., 838 S. Main St., Los Angeles.

POULTRY

CLEARANCE SALE—PURE BRED STOCK—White Wyandotte cockerels and pullets to make room for my S. C. White Leghorns. C. C. HOCKABOUT, Watsonville, Cal.

WHITE PLYMOUTH ROCKS EXCLUSIVE-ly. The largest flock of prize winning birds in the West. At the late Los Angeles show, 1907, we won twenty-three out of a possible twenty-five prizes. We offer extra bargains in our this year's breeders. Will sell to suit purchaser. Eggs \$2.50 per 15; \$10 per 100. A. J. LITTLE, Monrovia, Cal.

HELP WANTED.

WANTED—A NURSEYMAN WHO HAS had experience in fruit tree nurseries and understands budding and grafting. A good opening for a young, energetic man who is anxious to advance on his merits. Also a young man who is familiar with ornamental plants and greenhouse works. Address, BOX 2697, FRESNO, CAL.

WANTED—AN EXPERIENCED MAN (with wife) competent to manage an orchard and vineyard of 240 acres. Must furnish reference from last employer. Pleasant home supplied. For particulars, address M. W. SHIDY, Acampo, Cal.

FERTILIZER AGENT WANTED—LOCAL agent to sell Swift's Pure Animal Fertilizer; also nitrate of soda; sulphate of potash, guano, etc. Inquire of CARROL B. SMITH, of Redlands, for particulars.

EGGS FOR HATCHING.

EGGS FROM MY PRIZE WINNING Barred Rocks; won all special and 13 regular prizes on Barred Rocks at late Los Angeles show. Eggs from best pens, \$2 and \$3 per 15; \$10 per 100. Can furnish any quantity. Also offer extra bargains in breeding stock. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

PRIZE BLACK LANGSHANS, SHORT legs, heavy bodies, unexcelled egg-producers. Choice 1907 cockerels, \$3.00; eggs, \$2.00 per 13; \$10.00 per 100; delivery of eggs Sept. 10th. Indian Runner ducks' eggs and stock for sale. CLYDE J. MOSS, Corona, Cal.

LAND.

JUBILEE POULTRY FARM—80 ACRES, well improved; 1000 pullets and hens; 2 horses, cow, farming implements, vehicles, 8 large Jubilee incubators and brooders; good roads, good markets; fine for vegetables, berries, etc. Telephone in house; hot and cold water to bath; water piped to all parts of the place; 6000-gallon tank; 4-H. P. Fairbanks-Morse engine, which runs pumping plant, vegetable cutter, shell and grain crusher, washing machine, wringer, churn, grindstone. Plenty good water. \$7500 takes everything. Easy terms, or will trade for 10, 15, 20 acres approved land in Riverside Co.; close to Riverside preferred. WM. MANTZ, Santa Maria, Cal.

FRUIT FARMS NEAR THRIVING CITY now yielding \$200 to \$1000 net per acre. LEWISTON-CLARKSTON Wash.

LOW ALTITUDE—Irrigated lands on easy terms in this long established fruit colony. Water piped to every tract. Just write for pamphlet 119, or send 15c for panoramic photograph, 8x36 inches, post paid in tube. Address, DEVELOPMENT LEAGUE, Lewiston, Idaho, or Clarkston, Washington.

FOR SALE—AT A BARGAIN—FORTY acres best fruit land or fine alfalfa at Lind-say, Tulare Co., Cal. Improved, house, barn, good well. Write Mrs. W. A. FRITCH, Jr., Prospect, Ohio, for further particulars. Price, \$4700—\$2300 cash and balance three years time.

BEST OF LAND FROM \$12 TO \$25 AN acre in most flourishing province in Canada, where farmers make money out of cattle, grain, alfalfa and sugar beets. Locate now. Free related. W. R. GILSON, 411 S. Main St., Los Angeles.

The Produce Markets

LOS ANGELES, Oct. 9, 1907.

Butter.

An increase of 7½ cents per roll on extra creamery butter gives an interesting tone to the market this week. The trust is responsible for it, say the dealers, but sure it is the sales are held firm at quotations.

Creamery extra per roll... 72½
First... 65
Dairy... 48
Cooking... 45@47
Eastern... 55@57½

Cheese.

Cal. Young America, per lb... 19
Hand... 20
California Anchor... 18
Northern fresh... 17@17½
Eastern... 17½@18
Imported Swiss... 32
Tulare flats... 18
Domestic Swiss... 21@22

Eggs and Poultry.

No change in eggs during the week. Receipts of fresh local stock were a little under the average and this would undoubtedly have caused an advance but for the free movement of Eastern eggs out of cold storage. Eastern egg-operators state they have never known of a time when the storage egg movement was so rapid.

Eggs local candled... 38@39
Eggs case count... 34@37
Fresh Eastern... 35
Eastern storage... 25@27
Hens per lb... 15
Young roosters per lb... 15
Fryers... 15
Broilers per lb... 16½
Old Roosters... 8
Turkeys... 16½
Geese... 12
Ducks... 11
Squabs... 1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 lbs... 7½@7¾
Prime steers... 4½@4¾
Heifers... 3¾@4¼
Calves per lb... 5
Sheep, ewes, per head... 4.75@5.25
Lambs per head... 4.50
Wethers... 5.50

Potatoes.

The potato market is weak with big stock in sight. Quotations are practically same as last week, but is hard to realize quotations.

Highlands... 1.50
Early Rose... 2.00
White... 1.90@2.00
Local Burbanks... 1.75@1.85
Salinas... 1.90@2.00
Sweet potatoes per lb... 1¼@2

Onions.

Onions are quoted lower than last week with tone of the market not of the strongest.

Silverskins per cwt... 2.00
Australian Browns... 2.00
Yellow Danvers... 2.00
Garlic... 8

Vegetables.

Beets per doz... 35@40
Bell peppers green lb... 2
Beans wax... 5
Beans Limas per lb... 2
Beans green... 1
Cabbage sack... 75
Celery per doz... 40@75
Chili peppers green lb... 02
Cucumbers per box... 10@20
Pickling... 50
Corn per box... 35
Cauliflower... 60@90
Carrots per doz... 30@40
Eggplant per lb... 2
Green onions doz bunches... 10@30
Lettuce per crate... 40@75
Pie Pumpkins... 1½
Peas sugar per lb... 5@6
Okra per lb... 5@6
Rhubarb per box... 1.35@1.50
Radishes per doz... 15@20
Spinach per doz... 19@15
Summer squash crate... 25@35
Turnips doz bunches... 40
Tomatoes per box... 10@25
Water Cress per hundred... 35

Citrus Fruits.

Valencias... 2.25@4.50
Grapefruit seedless... 3.25
Grapefruit seedlings... 1.75@2.00
Lemons fancy... 3.75@4.50
Lemons choice... 2.00@2.50

Fresh Fruits.

Bellefleurs... 1.25@1.75
Bellefleurs... 1.50@2.00
Baldwins... 1.75
Pippins 4-tier... 1.50
Gravenstein... 1.50
Alexandria... 1.00@1.50
Cooking... 50@1.00
Blackberries... 7@8
Cantaloupes crates... 1.50@2.00
Casaba per crate... 1.25@2.00
Figs black per lb... 5@7

Figs white... 5@7
Guavas... 4
Grapes Isabelas per box... 1.25
Black Hamburgs... 65@85
Rose Peru... 65
Malaga... 1.25
Muscats... 75@85
Tokay... 1.50@2.00
Cornichons... 1.25
Huckleberries lb... 11
Logans... 12@15
Pears... 2.25
Peaches per box... 1.25@1.50
Frech prunes... 65@75
Hungarian prunes... 1.10
Pomegranates per box... 1.25
Persimmons... 5
Quinces... 85@90
Raspberries... 15@18
Strawberries... 2@4
Watermelons per lb... 1@1¼

Dried Fruits.

Dried fruit market is very strong with full quotations easy to get. Some fine Southern California prunes are coming to market, which are commanding full quotations.

Apricots... 19@23
Evap. apples fy per lb... 8½@9
Figs loose... 3.25@3.45
Peaches... 12@14
Pears... 12½@13
Nectarines... 11@12
Prunes... 3½@5½
Plums... 11½@12½

Beans, Dried

There is no change to speak of in the quotations of last week.

Limas per cwt... 4.50@5.75
Pink No. 1... 3.25@3.50
Lady Washington... 3.25@3.45
Small White... 3.25@3.40
Black eyes... 4.50@4.75
Garvanzas... 5.25@5.75
Lentils... 12@12½

Honey

The prices we give are those at which the jobber sells to the grocer in small lots. The producer should take from this one cent a pound commission and freight to Los Angeles, and there will remain the net return to him.

Extracted white... 6@7½
Light Amber... 5@6
Comb water white 1-lb. fms... 12@16
Light Amber... 11@13

Nuts.

Walnuts are proving a disappointment and are yielding much lighter than anticipated. The farther into the gathering season, the more apparent this becomes. The 15 cents fixed by the association it is thought now, will be excellent.

Almonds per lb... 18@20
Peanuts Virginia... 8½@9
Peanuts California... 6@7½
Walnuts No. 1 S S... 15
No. 2... 12

Hay.

Barley No. 1... 14.00@15.00
Barley No. 2... 12.00@13.00
Alfalfa northern per ton... 14.00@15.00
Alfalfa new local... 15.00@16.00
Plain oat No. 1 new... 12.00@15.00
Wheat No. 1... 15

Grain.

Wheat new per cwt... 1.70
Barley... 1.45
Corn Eastern sacked... 1.70

Feed Stuff.

Kaffir corn and Egyptian corn are now practically out of the market.

Selling price F. O. B. Los Angeles as follows:

Cracked corn... 1.75
Shorts... 1.45
Bran... 1.30
Oil cake meal... 2.50
Feed meal... 1.80
Rolled barley... 1.60
Rolled Barley per ton... 32.00

IT'S PENNY WISE.

Policy to set out a good tree, costing good money and then let the sun burn the bark or the rabbits gnaw it when for \$1.00 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Manufacturing Company, 1380 Willow Street, Los Angeles.

BETTER THAN EVER.

It is gratifying to note that great as was the San Francisco disaster, many of the old time, familiar names still remain on the signs over the big houses. One of these names is that of Woodin & Little, which was for years familiar on lower Market street. The firm is now located at 534 and 536 Mission street between First and Second. There a bigger and better stock of pumps—especially the Gould, which has been a winner—also of engines is complete.

The years of experience of this firm in handling these goods is worth much to the purchaser. A letter to such a firm expressing your needs will bring valuable information. Ask for Catalogue A.

San Francisco Markets

SAN FRANCISCO, Oct. 8, 1907.

Butter.

An advance of three cents on butter is noted this week and a clean market creates a good tone.

California extras per lb... 25
California firsts... 25
California seconds... 25
California thirds... 25
Eastern extras... 25
Storage Cal ex... 25

Cheese.

California young America fy... 25
California flats fy... 25
Eastern fy... 25
Oregon fancy... 25

Eggs and Poultry.

Eggs are in keenest demand continually advancing. Nearly a cent advance is made on strictly fresh while all grades are marked up.

Fresh ranch eggs... 25
Eggs firsts per doz... 45
Eggs seconds per doz... 45
Eggs thirds... 45
Storage Cal extra... 45
Eastern firsts... 45
Eastern selected... 45

Hens per doz... 4.50@
Hens large... 6.00@
Young roosters... 6.00@
Old roosters... 4.00@
Fryers per doz... 3.50@
Broilers per doz... 3.50@
Geese per pair... 1.75@
Ducks young... 4.00@
Turkeys per lb... 20@
Pigeons... 20@

Live Stock.

Steers No. 1... 8@
Do second quality... 7@
No. 1 cows and heifers... 8@
Hogs 80 to 200 lbs... 8@
Hogs 200 to 300 lbs... 8@
Calves per lb... 4½@
Lambs, yearlings... 6@
Wethers, No. 1... 6@
Ewes, No. 1... 6@

Potatoes.

Choice grades of potatoes are proving owing to the steady inquiry from buyers for the cheap varieties and the liberal receipts. Sweet potatoes are likewise weak.

River whites... 1.00@
Salinas... 1.40@
Sweets... 1.50@

Vegetables.

Bell peppers have become scarce and an especially strong market holds them. Tomatoes are in oversupply and are unsteady. Cannery get them want for 25 cents a box. Cucumbers are on hand in moderate quantities and though rather stale, are moving more freely. Green peas were light supply and some shipments, from Halfmoon Bay, failed to appear. Small lots of green corn came in, sold according to its quality from \$1.50 to \$1.75 a box. Brown Australian onions are in heavy supply and strong demand is taking them at 6 cents a pound.

Asparagus... 50
Cucumbers per box... 1.50@
Corn per sack... 1.50@
Chili peppers per box... 40@
Bell peppers per box... 30@
Egg plant per box... 50@
Green peas per lb... 50@
Squash per box... 50@
Tomatoes California... 25@
String beans... 1½@
Wax beans... 1½@
Garlic... 1½@
Marrowfat squash per ton... 10.00@
Hubbard squash per ton... 10.00@

Onions.

Onions Br Australian per cwt... 1.40@
Yellow... 1.40@

Citrus Fruits.

Valencias... 3.00@4.50
Grapefruit seedless... 2.50@4.00
Lemons... 4.00@6.00
Limes... 6.00@8.00

Fresh Fruits.

Santa Clara furnishes a large proportion of the quinces, but the present lots are receiving little attention. Persimmons from Placer county come in now in fair-sized quantities, but the market is as yet weak. Nutmeg melons were in heavy supply, but too green to be salable. Pears were mostly of the cooking variety, with several small, choice crates from Ashland. Or The market for them was quiet. Grapefruit meets a good call and brings from \$2 to \$3.75 a box.

Apples Gravenstein... 1.50@1.75
Apples small stock... 40@75
Crab apples... 85@1.00
Blackberries per chest... 4.00@5.50
Figs one layer... 40@75
Melons per crate... 85@1.00
Figs two layers... 85@1.00
Grapes per crate... 75@1.00
Huckleberries... 7@1
Pears cooking... 60@1.2
Pomegranates per box... 75@1.2
Pomegranates per box... 50@1.00
Peaches per box... 1.00@1.2
Bartletts... 75@1.2

Malthoid Roofing

Is high priced? No—it is cheap. Malthoid lasts longer than any other ready roofing, therefore costs less.

Write for Malthoid booklets.

Manufacturers of
P & B Ready Roofing
P & B Paints and
P & B Products

Los Angeles Office
313 North Los Angeles Street

Plums per box.....75@1.00
Raspberries per chest.....7.00@10.00
Strawberries per chest.....6.00@10.00
Watermelons per doz.....1.25@2.25

Dried Fruits.

Apples (evap.)10@10½
Pecanots per lb new.....18@22
Rais white.....3½@5
Raspberries.....12½@15
Rais pitted.....10@12
Rais 4 sizes.....4@5½
Rais.....10@13
Rais.....5½@11
Rais 4 size bag basis.....4½@5

Beans, Dried.

Beans.....5.30@5.40
Beans.....3.25@3.35
Beans white.....3.25@3.50
Beans white.....3.00@3.10
Beans Washington.....3.25@3.45
Beans eyes.....4.00@4.25
Beans kidneys.....3.40@3.50
Beans.....3.15@3.25

Hops.

Hops new future delivery per lb.....7@9
Hops old fancy.....5@7½

Nuts.

Nuts new.....16½@17½
Nuts California.....6½@7½
Nuts.....14@17

Honey

Honey car white comb.....16@17
Honey extracted.....12@15
Honey extracted.....7½
Honey wax No 1 per lb.....26@28

Hay.

Hay alfalfa local.....12.00@13.50
Hay oat.....16.00@17.00
Hay oat.....10.00@14.00
Hay wheat No 1 new.....20.00@21.00

Grain.

Grain wheat No 1.....1.62½@1.67½
Grain barley No 1.....1.40@1.42½
Grain small yellow.....1.65@1.67½
Grain large yellow.....1.55@1.60
Grain white.....1.55@1.65
Grain red.....1.75@1.90

Feed Stuff.

Feed stuff per ton.....21.00@22.50
Feed stuff per bale.....75@85
Feed cornmeal per ton.....33.50@35.00
Feed cracked corn per ton.....34.00@36.00
Feed cake meal per ton.....38.50@40.00
Feed coconut cake, per ton.....25.00@26.00
Feed middlings.....28.50@30.50

Citrus Market

LOS ANGELES, Oct. 9, 1907.

There were any amount of fruit in the State now, the citrus market would be intensely interesting, prices are most satisfactory. Both oranges and lemons are picked up as soon as offered.

Shipments.

Total shipments of citrus fruits to date this season, are 27,317 cars, of which 3360 cars were lemons. To same date last season, 25,681, of which 3000 were lemons.

NEW YORK, Oct. 7.—The market is very strong, weather clear and warm. For Valencia and one grapefruit sold today.

VALENCIAS—Avg.
Eptro fy S S Ft Ex.....\$6.85
Pnter xfy A C G Ft Ex.....4.10
Vtury xch Cal Cit U.....3.55
Adon ch Thomas Strain Fulln... 4.30
Cnbria st Thomas Strain Fulln.. 3.90
RAPEFRUIT—
Crito.....\$3.25; halves... 2.80
Mhla.....4.40

PITTSBURG, Pa., Oct. 7.—The market is very strong and the weather is favorable. One car sold.

VALENCIAS—
Red Prince ch Riv Ft Ex Pach Sta 4.65
Stock Lablo st Riv Ft Ex Pach Sta 3.50

CLEVELAND, O., Oct. 7.—The market is very strong and weather warm.
VALENCIAS—
Planet xc S S Ft Ex Orange..... 5.00
Searchlight st S S Ft Ex Orange 5.25
S S ch S S Ft Ex Orange..... 4.85

ST. LOUIS, Mo., Oct. 7.—The market is firm on good stock. It is raining.

VALENCIAS—
Volunteer xc S A Ft Ex Pomona.. 4.50
Greyhound ch S A Ft Ex Pomona 4.70
SEEDLINGS—
Volunteer xc S A Ft Ex Pomona 4.30
Greyhound ch S A Ft Ex Pomona 3.10
LEMONS—
Pet xc S A Ft Ex Pomona..... 4.35
Greyhound ch S A Ft Ex Pomona 4.00

NEW YORK, Oct. 8.—The market is very strong and the weather is cool and cloudy. Four cars of Valencia were sold today.

VALENCIAS—
Old Mission fy Chapmans' Fulln.. 8.00
Old Mission ch Chapmans' Fulln.. 6.35
Golden Eagle st Chapmans' Fulln 5.00
Pilgrim fy Richardson Fulln..... 5.35
Mayflower ch Richardson Fulln... 7.15
Pilgrim fy Richardson Fulln..... 6.20
Buena st Richardson Fulln..... 5.50
Bouquet xfy Cal C U..... 5.05
Victory xc Cal C U..... 3.30
El Toro st Cal C U..... 3.15
Scepter ch S S Ft Ex..... 5.70
Planet st S S Ft Ex..... 5.65

PHILADELPHIA, Oct. 8.—The market is very strong and the weather is favorable. One car of Valencia and one mixed car was sold. No arrivals.

VALENCIAS—
Old Oak ch Tustin Pack Co Tustin 5.65
Lucky st Tustin Pack Co Tustin 5.50
SEEDLINGS—
Loma ch Limoniera Co San Paula 4.50
LEMONS—
Selected fy Limoniera Co S Paula 3.50
Loma ch Limoniera Co San Paula 3.50

TO MAKE GOOD COOKING BETTER.

Here is something that should have prompt attention at the hands of everyone of our readers. A valuable cook book containing hundreds of choice recipes and other kitchen helps, to be sent free to our readers, on request.

The Enterprise Manufacturing Company of Pennsylvania, 240 Dauphin Street, Philadelphia, has just gotten out a new and up-to-date edition of their valuable cook book, "The Enterprising Housekeeper." The regular price of this book is 25 cents, and it is well worth it, but everyone of our readers can get it absolutely free, simply by writing to the Enterprise Manufacturing Company and asking for it.

Those of our readers who desire a copy of "The Enterprising Housekeeper" should get their request in as soon as possible. Though the edition is a large one, it may be exhausted.

INCUBATING OSTRICHS.

Editor Cultivator:

We feel a degree of pardonable pride in advising you of the receipt of a cable order from South Africa for forty—Model 83—O—"Petaluma" Ostrich Incubators.

A few years ago Mr. Colenso, who is a half owner in a large ostrich farm in South Africa, visited California and saw how successful the California ostrich farmers have been with "Petaluma" Incubators in hatching those large eggs. The above named gentleman ordered two "Petaluma" Incubators for ostrich eggs made and shipped to his farm; since which time we have made many ostrich incubators for that country, the latest order being for 40 machines.

No other incubator can so successfully handle those large eggs, and ostrich farmers have repeatedly written us that they would not risk putting such valuable eggs in any other than the "Standard of the World" "Petaluma" Incubators.

Petaluma Incubator Co.

IN SPANISH.

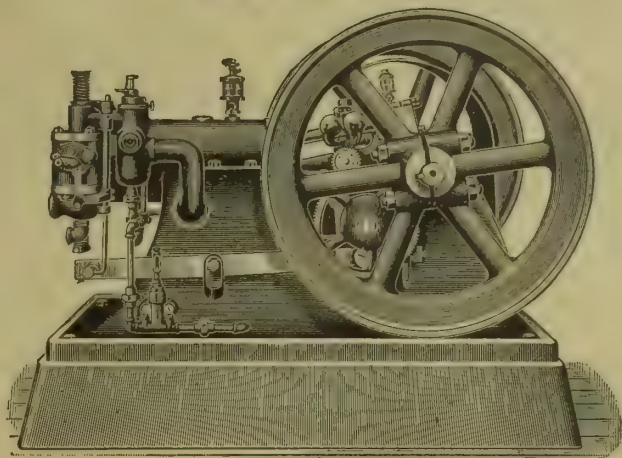
The Germain Seed Co. is out with a catalogue, the illustrations of which are profuse, very clear and intelligible, but for the reading matter we have but little use though it is doubtless all right. We note that it is a "Lista general de Semillas de Primer grado." It seems to be complete from "vegetales" on the first page to the "Colecciones de bulbos."

In other words it's the Germain Seed and Bulb catalogue in Spanish printed to meet the ever extending trade of the large house. Our subscribers in Mexico and Spanish-speaking Californians will find it an advantage.

Several tons of walnuts have been received at many packing houses.

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

Alamo Engines



Gas Engines Like automobiles have been greatly improved in the last two or three years. When buying an engine don't buy an antiquated model. Buy an engine that embodies all the latest improvements. THE ALAMO is the modern distillate engine.

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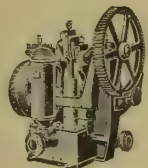
It will pay you to know more of our sugar plantation profit-sharing plan. George Gould, speaking of this section, says: "The great Southwest will surprise the world in the next ten years with its development." Let us tell you more.

First Class Agents Wanted Everywhere. Write Us for Complete Information, Booklets, etc.

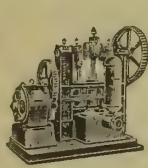
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501 Union Trust Bldg, Los Angeles

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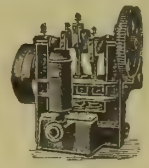
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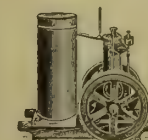
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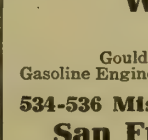
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Corner of Bertie and Gibbs Streets **POMONA, CAL**

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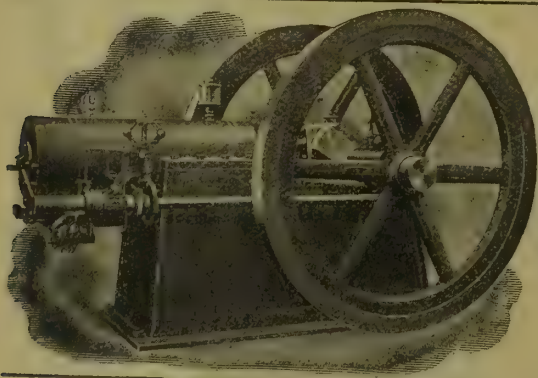
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Have Stood the Test
14 Years

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Greenleaf-Compton Company

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A Handy Little Engine

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The Little Wonder

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Wm. Gregory
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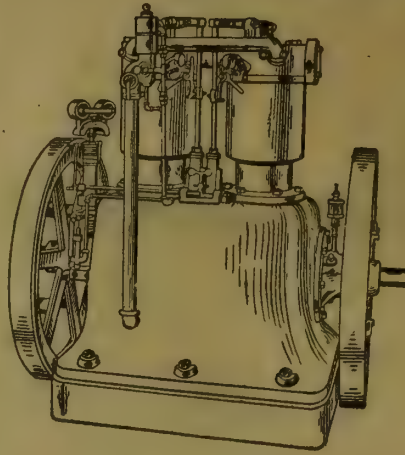
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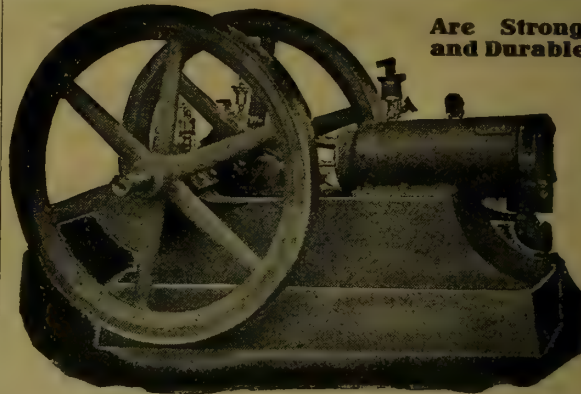
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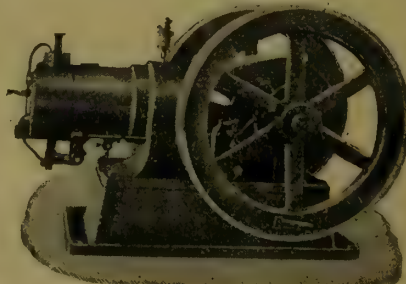
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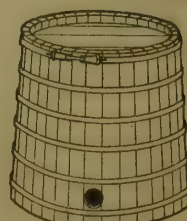
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Water Tanks, Wine Tanks made from carefully
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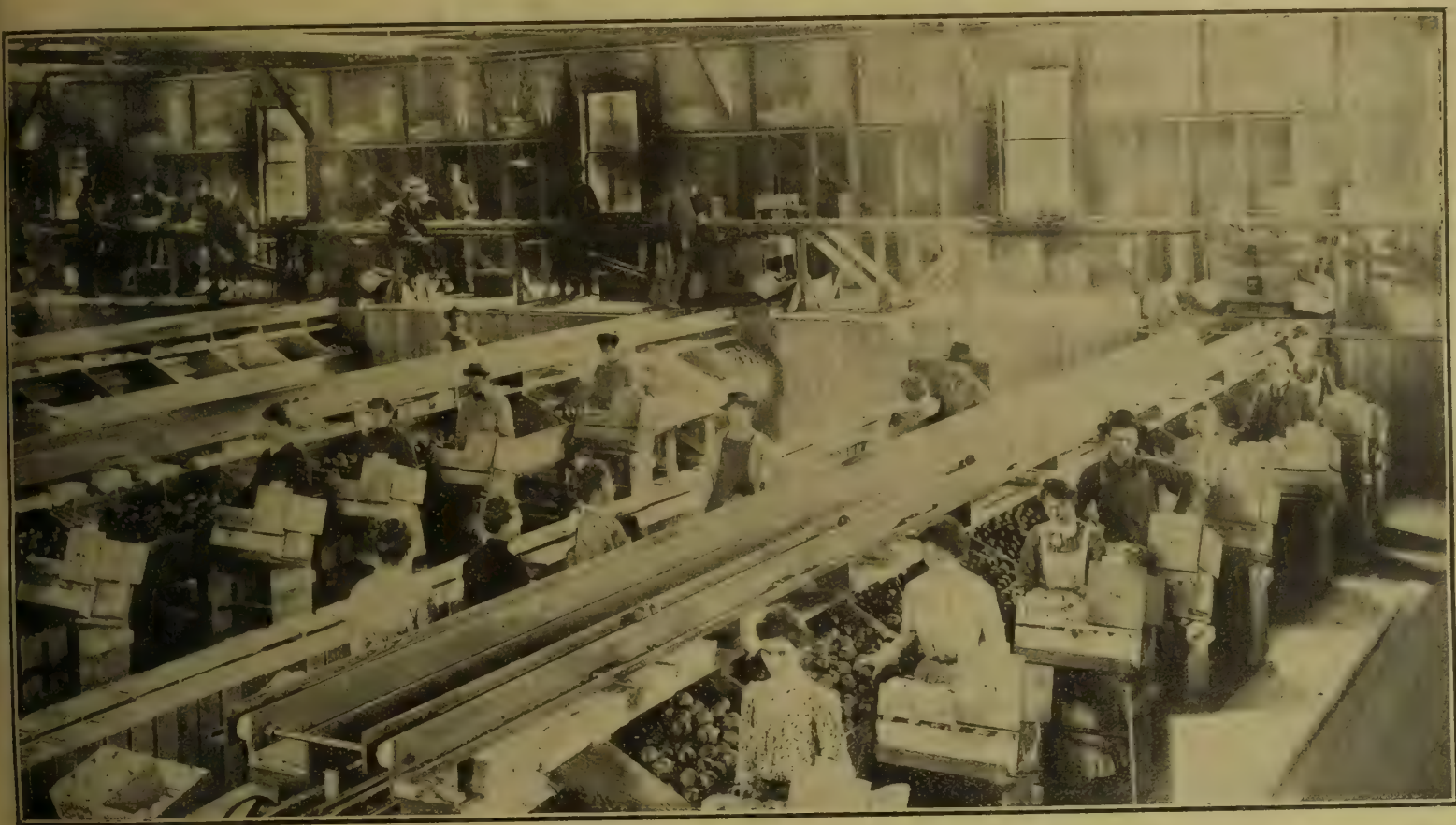
California Cultivator

Los Angeles

October 17, 1907

San Francisco

Citrus Fruits for the Nation



The Hum of Industry: Packing a California Crop of Citrus Fruits



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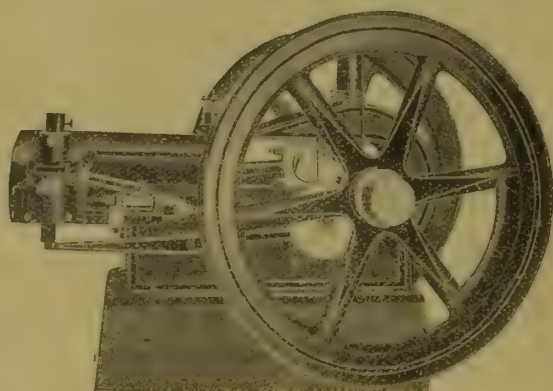
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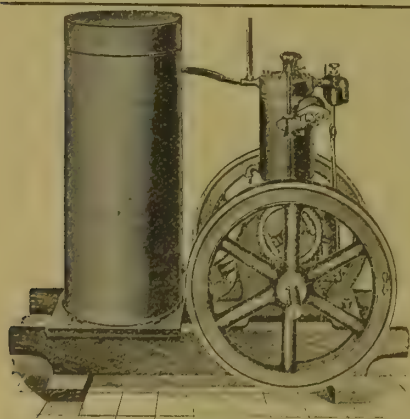
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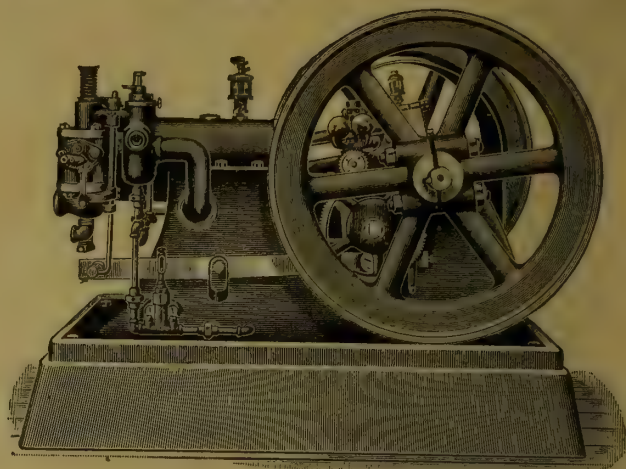
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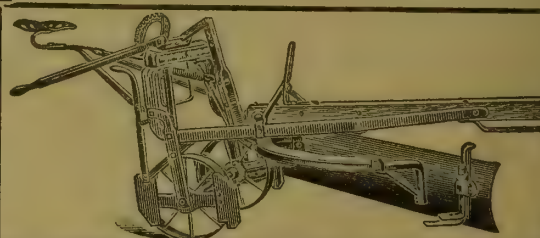
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California Cultivator

Vol. XXIX—No 15

Los Angeles, California, Thursday, October 17, 1907

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The Benefits of Draining Farm Lands

If Properly and Deeply Laid, Tiles Make Possible Greater Crops and Easier Tillage of Soil. An Interesting Letter by a Subscriber

FARM DRAINAGE, as you state in your issue of September 12th, is seldom mentioned in the agricultural press of this State, though it is practiced to quite an extent in our county on the coast. There are two kinds of drainage practiced; the one with open ditches, deep dead furrows, and improperly laid tile, for the sole purpose of carrying off the surplus water in sight; the other, properly laid tile, deep enough and close enough to not only carry off all the surplus water from the area drained, but principally for holding sufficient and available moisture and plant food during the growing season.

To explain the effects of the latter method would take much space and is fully covered in Farmers' Bulletin No. 187, U. S. Department of Agriculture, which should be in every grower's hands, whether his land be wet or dry. So I will confine myself to actual experience.

In regard to the former method I can only give the opinion of those using and preferring it. Our supervisor says that tile are of little or no use. In supposed proof of this he referred to the tiling he had done on the road with doubtful results. It happens that I witnessed the laying of that particular piece and know that the tile were laid by a boy that had never seen a tile laid, and the grade of the ditch had not been established. The tile was left open at the upper end (if the inlet was at that end) and the outlet was closed by a caved in ditch.

A neighbor claims that tiling is not a success and is not as good as deep dead furrows. He has a forty acre field tiled (?) and from looking at the growing crop one can not help but agreeing with him that the poorest growth is directly over the rows of tile. I could not help being convinced of this fact from personal observation much against my will, for my experience has been just the opposite, and I could not understand why his tiling should act so. But I found that it was from faulty construction of ditches.

This neighbor is one of the neatest of farmers and often my place looks decidedly neglected in comparison, but his idea of drainage is to have the tile laid as near the surface as possible and have it below the plow line. The tile is so close to the surface that the soil cannot hold its moisture over or near the tile nor will it be of any benefit to the land adjoining, except by allowing the surplus water on the surface to run off and to give the appearance of being dryer. One thing is certain; that is, his land is being kept up at a great expense of manure by his tenants and the piece farmed by himself or rented by the year. It hardly seems possible that our land here that our best farmers contended could not be maintained without detriment, that after producing abundant crops year after year and a continued washing of soil through deep dead furrows with an annual rainfall of from fifty to sixty inches, in Humboldt county could within the last few years become so sterile.

Tillage proper is undoubtedly one of the most profitable investments that a farmer can make. Seven years ago I put in a line of tile from top and a half feet to five and a half feet deep and after the hay was cut in June and pastured since, you can follow the whole length of the ditch by the heavier growth directly over the tile.

Another neighbor has over twenty-one thousand feet of tile on his forty acres. It is the most thoroughly tiled farm and the most productive. His first tiling caused rank growths to stripe his place, then he put rows of tile between following the lay of the land, and now his whole place is one rank growth of whatever crop he chooses to plant, and says that he has room for more tile yet. He cut five tons of clover and grass hay to the acre and has had abundance of pasture since.

Does grass grown on well-tiled land where the growth is heavy make as good food as that produced on light and less productive soil? The best answer is, that his cows without any other food than this pasture gave returns for the month

of August for over thirteen dollars per head for milk sold to the creamery; for July over twelve dollars and with the price of butter advancing, there is no reason to doubt that they have not reached their highest mark yet. This pasture is still green and growing without irrigation, but from the moisture conserved through the medium of the tile.

There is nothing very difficult about laying tile, but like many other things, you must hew to the line. With a careful eye, good tools and thorough confidence in your level, there is no need of making a poor ditch, but you must remember that a thousand tile will carry no more water than will run through any one of them and any carelessness in placing one tile will seriously interfere with the whole drain.—A. Subscriber.

Why Tiling Benefits the Soil

A. G. McCall, Professor of Agronomy of Ohio Agricultural College, gives excellent reasons for advantage which is derived from drainage. From his report we quote:

Artificial drainage is used to carry the water away more rapidly. The first and the easiest to provide is a system of surface drains which carry away little more than surface water.

If the under or sub-soil is sandy or gravelly, the surplus water readily finds its way down through the soil, but if the soil is heavy clay to a considerable depth it is necessary to use deep open ditches or tile drains in order to remove the excess of water after every heavy rain.

About one-third of the total air space in sand and about one-half of that space in clay is occupied by the soil particles themselves and the other half is taken up by air, if the soil be dry. For the best growth of crops about half of the space not occupied by soil should be equally divided between air and water. If the soil is not drained this space becomes entirely filled with water and the plants whose roots are feeding in the soil are suffocated from the lack of air and oxygen. Some plants, such as the cypress and water lily, have special structures which enable them to obtain their oxygen from the air and water while their roots are entirely under water; but our common field plants do not have this power. Soils that are quite sandy or gravelly may allow the water to pass downward too rapidly and thus deprive the plants of needed moisture. In such cases it is necessary to treat the land in such a way that its water-holding capacity is increased. This may be done by plowing under stable manure or any well rotted vegetable matter which assists the soil to hold water like a sponge.

In the heavy soils the water passes downward so slowly that plants in their early growth send out only a very shallow root system because the free water. In time the water makes its way for common field plants will not send their roots into free water. In time the water makes its way far below the roots of the plant; a drought comes on and the plant dies or shrivels because the root system in its early life did not extend deep enough that it might find film water—that is, a

thin water coating on the soil grains—which would supply it during the dry season.

A tile drain will carry off the free water rapidly and permit plants to root deep. The removal of free water permits air to enter the soil to furnish nitrogen to the clover root bacteria and oxygen to the rootlets of the plant. If oxygen can freely enter the soil, decay of soil particles is more rapid and complete. With the greater quantity of film moisture there is also an increased supply plant food, for it is in this thin film that the tiny root hairs find their food.

Improve Texture.

Under drains improve the texture of the soil. By texture is meant its coarseness or fineness. Wet soils are sticky and if stirred become very lumpy and cloddy. Well drained soils break up more readily and are more easily cultivated. In soils that are well pulverized the root hairs touch more soil particles and can secure more plant food. The well fined soil permits warm showers to enter more rapidly.

A system of under drains assist to keep the soil warm. If one were to take two thermometers and insert the bulb of one in a vessel of dry sand and the other in a vessel of water and allow the sun to shine upon both sand and water until each become 4 degrees warmer, it will be observed that it takes many times longer for the water to show the same rise in temperature. The sun must spend much of its heat on the free water before the soil is warmed very much. If the free water were taken away by drains the sun could spend more of its force in warming the soil. A system of well placed under drains permits the soil to be worked earlier in the spring and later in the fall, thus lengthening the growing season.

If in leveling the ditch the bottom is left irregular, the tile lying lowest will partly fill with sediment unless there is much fall. Great care should be exercised in laying the tile where there is little fall. Drains coming into the main line should join at an acute or very sharp angle. The mouth of drain should be well protected by a screen or coarse wire to prevent rabbits and other small animals from entering. The outlet tile should be the hardest that can be selected, to prevent injury from freezing.

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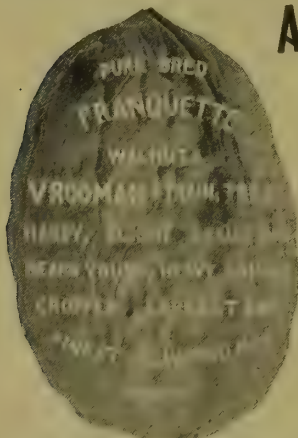
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FERTILIZERS.

RECENT TESTS made at the Wisconsin station show that acid soils require phosphates. It is possible to tell by the use of litmus paper if the soil needs the phosphate in the immediate future. Acids turns litmus paper red and alkalies turn it blue. It is not probable that this test will work in California as nearly all of our land has a trace of alkali in it.

It is shown that the difference in the amount of nitrogen contained in virgin soils and that in cropped soils, is not accounted for in the crops taken from the latter. This would indicate that denitrification is more active in cultivated soils than in those which are not cultivated. This is an argument in favor of green manuring crops in our groves, because such crops help to keep up the supply of humus. It was found that the loss of nitrogen was greater when manure with considerable litter was used than when manure without such material was used. It was found that the loss was greater when nitrate of soda was used than when calcium nitrate was used. The coarse material in the manure containing litter aerated the soil so excessively that the denitrifying bacteria was more active.

Tests with different kinds of manure showed that the largest crops were produced with the application of sheep manure. The order of efficiency of manure ran as follows: Sheep manure, cow manure, horse manure, cow manure with litter and horse manure with litter. The theory is that the carbohydrates which serve as food for the denitrifying germs, is more thoroughly digested by sheep than any other animals. These experiments were made with fresh manures. Where composting is done before the application is made, results are much better with the coarser manures. Green manuring crops showed a minimum amount of loss of nitrogen and the decomposed material was much more quickly converted into humus.

Decomposition.

An interesting experiment was made in which practice and theory confirm each other. Scientists have determined that a certain form of bacteria cause decomposition of vegetable matter and reversion of certain minerals in the soil. They find that different kinds of soil contain them in different amounts. Black marsh land contains the greatest number; clay, sandy loam and sand following in the order named. It is found that decomposition of vegetable matter and fertilizers is most rapid in the black marsh land and the least so in sand. Clay stands next to black marsh land and sandy loam next to sand. The progress in decomposition fluctuates with the amount of bacteria contained in the soil. This argues well for the continuation of planting green fertilizers, as the continual incorporation of vegetation and its decomposition in the soil brings the soil nearer to the condition of the black soil.—J. W. Mills.

The Nut Weevils, by Dr. F. H. Chittenden of the United States Bureau of Entomology, is a reprint from the 1904 Year Book of the Department of Agriculture, and should be in the hands of all nut growers.

TO MAKE CIDER VINEGAR.

Take sound barrels, or any suitable ware or glass—never iron, copper, or tin. Clean thoroughly and scald. Fill not more than half full with the cider stock, which should have fermented at least one month. To this add one-fourth its volume of old vinegar. This is a very necessary part of the process, since the vinegar restrains the growth of the chance ferments which abound in the air, and at the same time it favors the true acetic acid ferment. Next add to the liquid a little "mother vinegar." If this latter is not at hand, a fairly pure culture may be made by exposing in a shallow, uncovered crock or wooden pail a mixture of one-half old vinegar and one-half hard cider. The room where this is exposed should have a temperature of about 80 degrees F. In three or four days the surface should become covered with a gelatinous pellicle, or cap. This is the "mother vinegar." A little of this carefully removed with a wooden spoon or stick, should be laid gently upon the surface of the cider prepared as above prescribed. Do not stir it in. The vinegar ferment grows only at the surface. In three days the cap should have spread entirely over the fermenting cider. Do not break this cap thereafter so long as the fermentation continues. If the temperature is right the fermentation should be complete in from four to six weeks. The vinegar should then be drawn off, strained through thick white flannel and corked or bunged tightly, and kept in a cool place until wanted for consumption.

If the vinegar remains turbid after ten days, stir into a barrel one pint of a solution of one-half pound of isinglass in one quart of water. As soon as settled rack off and store in tight vessels. Usually, no fining of vinegar is needed. No pure cider vinegar will keep long in vessels exposed to the air at a temperature above 60 degrees F. "Vinegar eels" are sometimes troublesome in vinegar barrels. To remove these, heat the vinegar scalding hot, but do not boil. When cool, strain through clean flannel, and the "eels" will be removed.

PROFITABLE GRAPES.

We note in the Dunbar Tribune this:

"The first green grapes shipped from the State this season went from the Alta district and were shipped by Ed. Thompson. Mr. Thompson shipped several cars and on Thursday morning received the returns from the first car he sent out, which was on the 5th of August. This fruit was sold in the city of Chicago for \$2275 for the carload. This means a little over \$3 per crate of 25 pounds, which is rather a handsome price for grapes, or it seems that way to those of us living in the grape-growing section of the State.

"After paying the expenses of packing and the railroad charges Mr. Thompson realized \$2000 from his first car."

Mr. Thompson tells the Cultivator that his ten and one-half acres of Malagas netted this year \$5488.38. It has been a most profitable crop, indeed.

But one point in the clipping from the paper we feel must be incorrect, and that is, that Alta district shipped the first grapes out of the State this season, for we think the Imperial valley must have won that honor by nearly a month. At least, Imperial valley was shipping cars by the middle of July, and the Cultivator of June 27 this year, chronicled "First Muscats were shipped from Imperial last week."

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WALNUT GROWING IN THE NORTH

THE question of how far north the walnut can be profitably grown has not yet been definitely settled, but from the northern plantings now being made promises to be shortly solved. Oregon and Washington are both going into walnut planting on a somewhat large scale and these plantings are covering a wide area. In Oregon, it has long been known that there was a very large amount of land suitable to walnut culture and we have seen trees in this state that have been in continuous bearing for fifteen years, and were assured that there had never been a failure. In this section the Franquette is the favorite, and it is claimed for it that it is a rapid grower and a late bloomer and better suited to the North Pacific conditions than most other walnuts, at least any which have so far had a fair trial. The walnut also does well in Northern California, and one of the largest and most profitable orchards in the State is the Vrooman orchard near Santa Rosa. Very much attention has been given to the walnut in Sonoma county and there have been heavy plantings of young trees during the past few years. Luther Burbank's advocacy of the walnut for this section has had much to do with making it popular, and there is a promise that Sonoma county may yet make a specialty of this fruit. Certain it is that the walnut has a much wider range on the Pacific Coast than has been believed and, with proper soil conditions, it will probably do well far toward the Canadian line. The prime requirement of the walnut is a deep, well drained, loamy soil. It is a broad and deep rooting tree and needs room for its growth. It should have abundant water either natural or applied, but must not stand in stagnant water. In the matter of climate, it will stand a very low temperature, growing as it does in England and France, where it sometimes has to endure a zero temperature, but it is exceedingly susceptible to extremes, more damage is done to young trees from the hot morning sun striking them, after a cold night, than from the cold itself. In such cases the side exposed to the sun becomes burned and the tree is injured if not killed. In sections where the rule is cold nights and clear, hot mornings the trees should be protected on the sunny side. In sections where a cold, even temperature is the rule, and the sap is not induced to run by the hot days of the winter months, they will take care of themselves.

A WORD OF WARNING

Entering as we now are upon the tree planting season, and with a prospect of very large importations of eastern nursery stock into our State, a word of caution will not be out of place to intending importers and planters. There are several pests and diseases in some of the Eastern States which we have not yet got into California. The introduction of any one of these might cost our orchardists immense sums annually to combat, if, indeed, it did not ruin their industry. To guard against this and to reduce the danger to the lowest limit, a horticultural quarantine law was

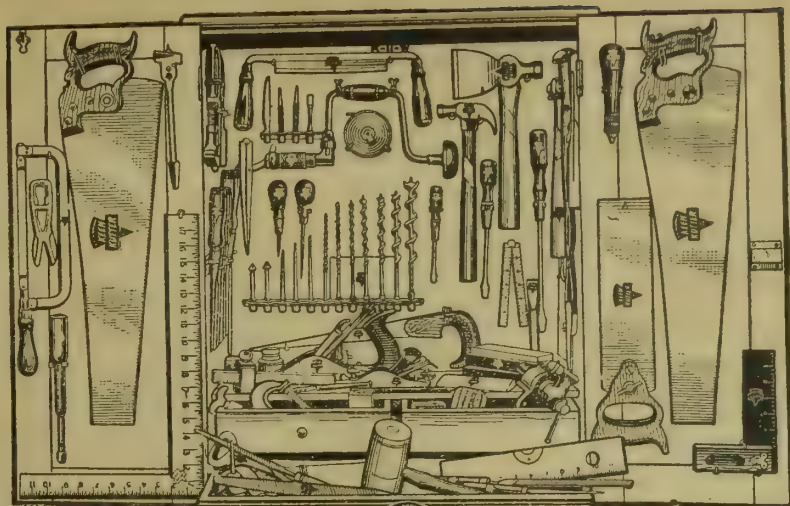
passed by the legislature. This provides that all importers of plants or nursery stock into our State shall notify the proper horticultural quarantine officer of the country into which it is brought, of such importation, and the officer is required to inspect it and see that it is clean before it is passed. The law also requires that each shipment into the State shall have plainly marked thereon the name of the grower and the location where grown. This is a law which should be strictly enforced for the protection of each individual grower, and every importer of nursery stock should see to it that the law is complied with. There are large areas in the East infected with peach yellows, rosette, etc., which are exceedingly contagious and as destructive to peaches as the pear blight is to pear trees. We have none of these diseases here yet, and no stock from sections where they exist should be allowed to enter. It is the duty, as well as the interest, of every importer, therefore, to see that this law is complied with.

CLEAN UP FOR INSECT PESTS.

A very large number of our insect pests take refuge beneath dead leaves and rubbish in the orchard and vineyard, others hibernate in roughened bark or neglected crotches of trees, or in any place where they may be liable to pass the winter season undisturbed. These come out in the early spring and get right down to the business of life—that of starting a new crop of their kind. This new crop soon starts many others and so, during the season, until they appear in destructive numbers to the cost of the agriculturist. To prevent this first brood, which is the progenitor of all the others, the orchard and vineyard should be thoroughly cleaned of all fallen leaves as soon as the trees or vines are bare. All refuse fruit should be destroyed, and all debris be burned. This, followed by thorough spraying during the winter, will greatly reduce the quantity of insect foes to be fought next summer. Early spraying with Bordeaux mixture will do much toward checking the spread of shot-hole fungus and peach blight. This work should be done between the present date and the middle of December and the earlier now, the better. Vine hoppers which are such a pest in the raisin sections, can be largely reduced in numbers by thorough cleaning up of the vineyards in the fall and the burning all rubbish with its contained insects.

PROGRESS OF THE WHITE FLY.

Active work has been commenced against the White Fly in the section of Oroville where it has been discovered. As the fly was in the winged stage when it was first reported, it was not advisable to attempt any immediate action, as it would rather have a tendency to spread it to other localities, but the winged form is now over, and the flies are in the pupa or larval state and in situ. It is now intended to defoliate such trees as it appears worst upon, and then submit others to a thorough fumigation with hydrocyanic acid gas. The whole infested area will be thoroughly treated and it is hoped that the fly will again be checked in its new location.—John Isaac.



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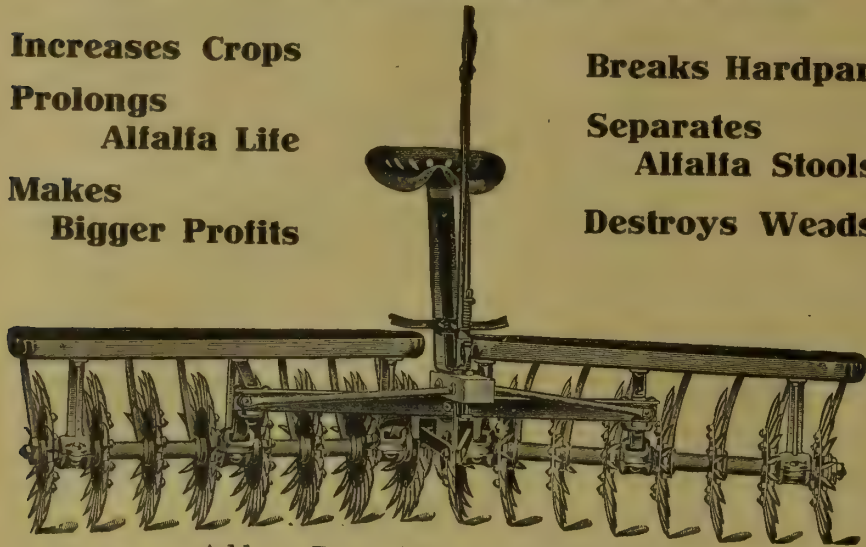
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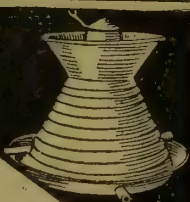
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HER CONDITION.

A widow, coy and sweet, was wooed by a bluff old sailor, who thought the world of her. But not trusting himself to make a direct proposal of marriage, he decided to speak to her in the metaphor of the sea.

"Kate," he said, "your boat is drifting down the sea of life, with no strong hand to steer it safely past the rocks. May I be your captain and sail it for you?"

"No, Jack," she answered with an engaging blush, "but you may be my second mate if you like"—Cotton Seed.



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Live Stock and Dairy

CHEESE MAKING.

(Continued.)

WHEN the curd is perfectly formed and springs under the touch, take the knife and put it straight at one side of the pan to the bottom. Cut straight across every half inch. Then crosscut in the same way. Take the pan to the range, putting it on to heat with an asbestos mat under it to prevent burning. Heat slowly, stirring gently until thermometer reaches 98 degrees. Then let the fire go down, or, remove the pan to a side table out of draughts. Cover it closely to retain the heat, after thirty minutes examine the curd. Make a small ball in the center of the hand, squeeze it gently together, if it falls apart as soon as released the curd is cooked enough.

Taking Up.

Push the curds to one side and bail out the whey, using a china cup. This is safer for the future cheese flavor than to use the kitchen dippers. The dippers are liable to taste of soup and onions, not to their discredit, but lowly flavors must not taint the savory mellowness of the cheese. Put a large platter on the table, stand the cheese ring on it. Put a square of cheese cloth into the hoops large enough to completely cover the curds. The muslin should be new and must be well scalded and can be put in wet. Roll up your sleeves and freshen the hands and arms with some warm water. Take up the curds by the handful, press gently together and letting the whey drain. Put the curds carefully to the bottom and fill the ring by gently pressing so that there will not be any irregular places on the bottom sides.

Pressing.

When the ring is heaping full, fold the ends of the cheese cloth over the curds and put on the follower inside the ring. A simple lever can easily be made to press the cheeses. A six or eight foot scantling will answer the purpose for a cheese this size. Stand the chopping block close to a window, or a strong box will answer; put it on a clean board and several thickness of folded flour sacks. Put the cheese on this; place a board on the top and on this a brick. Put the end of the scantling under the edge of the window sill and lay it across the top of the brick that rest on the cheese. Make a weight of about twenty-five pounds by wiring together wornout plow shares slipping them by a wire loop over the scantling. The pressure on the cheese is regulated by the distance the weight is placed from the end of the lever. At first, the weight is close to the cheese, later at the very end; while the curd is soft, too heavy pressure is injurious to the texture.

Treatment.

After five hours in the press, take out the cheese, remove the cloth and gently wash off the whey with warm water. If this is not done the cheese will be sour tasting; rub the cheese dry, now bind the cheese around the outside with a strip of firm muslin, after having scalded out all the starch. Have the muslin wide enough to fold about an inch on the top and bottom. Draw this bandage firmly and lap about four inches.

See us for Sanitary Milk Bottles. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Fold the edges down on to the cheese and lay on top and bottom the circle of cloth. Scald the tin rings and cool them, wiping them dry. Slip it over the cheese. Stand the cheese again on fresh flour sack. Slip the weights half way to the end of the lever and leave the cheese twenty-four hours.

Salting.

The brine way I like, as it is simpler and seems to make a cheese that does not crack readily in the curing. Make a brine by boiling water enough to cover the cheese, using all the salt that the water will dissolve. When the brine is cool put the cheese into it, cover the top of the cheese with the cloth and wipe it well. Dry salting is done by rubbing with fine salt thickly. Turn the cheese after twelve hours and salt the other side. After twenty-four hours the cheese with salt twice a day for six days keeping it covered with a cloth between time. Either way will make the cheese salty enough to be palatable. When the salting is completed the curing begins.

Curing.

Brush and wipe the cheese smooth from salt and lightly run over it with melted butter. Put on a clean bandage and fresh end covers. It will not pay in cheese making to wash out and use again on the cheese the old covers as they are weakened by using. Turn the cheese daily, and twice a week examine to see if it is cracking. When cracks appear take off the cover bandages and grease again, then if the cracks are deep, use fresh made flour paste and put a paper patch across the openings to exclude the air. Put on fresh bandage and the trouble will probably be at an end. The curing room should be an airy, dry place where the temperature is about 60 degrees. The cheese is ready to be cut in six weeks, or it may be wrapped in several thicknesses of brown paper and then in a tin box to keep away mice until used up.

Warning.

Heat is the enemy of the cheese in curing; it is, therefore, better to have a temperature below sixty than to have it above it for a period.

The pressing is simple enough if it is remembered; lightly at first and increasing as the green cheese grows firmer until it reaches the maximum.

The bandages on the cheese can be greased every other day if the cheese starts to crack badly.

Cold draughts often give trouble in making the cheese dry irregularly.

If it is preferred, the salting can be done in the curds after they are drained and before placing them in the rings or hoops. Use four ounces of salt to every ten pounds of cheese.

An error is made by stirring the uncooked curd too much. This causes the cream to escape in the whey and makes the cheese poor and tough.

In making cheese as in making butter, it is wash! wash! wash! be clean! and then after everything is clean make it clean all over again for safety. It reminds me of the small boy who had a stepmother. A prying neighbor asked him if he was happy. Jimmy said "yes." Then questioned

Veterinary Instruments, Black Leg and Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

October 17, 1907.

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Pigs grow faster than other farm animals because of great digestive capacity. Yet herein lies a danger as well as an advantage. It is easy because a pig consumes much food to spoil digestion by overfeeding. When you fatten pigs it is well to give Dr. Hess Stock Food in the ration twice a day. Better yet, it is well to begin the use of

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as soon as pigs are weaned and continue to the time of marketing. In this way hogs are kept healthy and make rapid growth. Dr. Hess Stock Food corrects digestive troubles, gives appetite for roughage, makes cows give more milk and keeps farm teams in condition.

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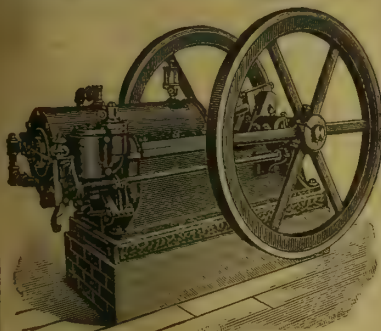
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The Goat business is on the decline in New Mexico owing to restrictions in the forest reserves.

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

the neighbor further saying "Jimmy, does she whip you?" "No, but does a precious sight worse," replied Jimmy. "Hum! What's that?" "Why" replied Jimmy dolefully, "she jest washes me all over every morning."
—M. E. Sherman.

TOUGH BEEFSTEAK.

A remark was inadvertently overheard the other day in one of Fort Collins' prominent hotels, which was in substance that, while this meat inspection might be all right, the beefsteak was tough as ever. Meat inspection guarantees that every animal shall be healthy, and the meat fit for food; it does not guarantee that all animals killed shall furnish juicy meat.

The question is often asked: "Why do we have so much beeter meat in the East than we do in the West?" The difference is easily explained: In the East the range conditions do not exist; the animals are fed and kept growing every day from their birth. In Colorado, range conditions largely prevail. It is either a feast or a famine; animals thrive on the rich, nutritious grasses of the western ranges during the summer, and in the winter, in most cases, are allowed to shrink. An animal that has once become poor will never make good, juicy beefsteak afterwards, no matter how fat he may be at the time of killing. This is the secret of tender beef and the reason why we do not get good meat in this western country, where the live stock business is one of the cardinal industries.

This complaint about tough beefsteak is as old as civilization in the West. It is bound to continue more or less until farmers learn that there is more money in baby beef, and in keeping the calves growing every day from the time they are born until they are a year and a half old, and then selling them for the market. In this way, the producer profits by the growth of the early life of the animal. The profit in feeding an animal gradually increases until the steer is a year and a half old. In fact, there is very little if any money in the small additional growth of the animal after this age. The matter of tough beef is up to the producer, and not to the food inspector.

GEORGE H. GLOVER, D. V. S.

MILKING MACHINES IN USE.

It is said that there are now about 1000 milking machines in use in the United States, among dairy herds. At the Nebraska Station, at Lincoln, one is in use to test in an extensive way the effect of the machine on the monthly and yearly records of cows, as well as the cost of operating. This experiment has now been in operation over a month, and, though considerable data has been obtained, it is difficult to tell just how it will influence the yearly production of the animals. No difficulty has been experienced in milking any and all cows tried, or have any of the animals been forced dry by treatment. Some cows we have wished to dry have been put on the machine, but we have found it necessary to skip milkings in order to reduce their flow. In one case a kicking cow was brought into the herd and the machine proved to be the best milker in this case, as hand milking was extremely difficult.—Exchange.

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The convenience of having an ensilage cutter of large capacity on its own road wheels is obvious. We confidently assert that no other ensilage cutter is so easy to work and easy to move and set up as ours, or has such large capacity for power used. They are unequalled in simplicity, strength and durability, convenience and safety in operation, and the excellent quality and uniformity of the silage.

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for ensilage cutters of the side-wheel type, 15 to 25 tons of green corn per hour, where cut in one-half-inch lengths, other feed in proportion. For further particulars, call on or address

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THE DAIRY HERD.

The principal dairy breeds are Holstein, Jersey, Guernsey, Ayrshire and Brown Swiss.

There are several other dairy breeds, such as the French Canadian, Kerry and Dutch Belted, etc., but these are rather scarce at present.

In buying dairy cows, we have a different standard to go by than in selecting beef animals.

A dairy cow is a machine that turns feed into milk and cream. So we must look for one that will convert the greatest quantity of feed into the most milk and cream. The type of dairy cow we want is a cow weighing about 1000 pounds. She must have a lean head and neck. Her eyes should be clear and large, indicating health and temperament. Her body should be narrow over the shoulders and broad at the hips and rump. She should have a large chest, indicating vitality. Her pouch or belly should be large, showing that she is able to consume a large amount of rough feed.

She should have a set of large, branching milk veins leading to a well developed udder, on which are placed four good sized teats.

She should carry very little flesh.

Before introducing any new cows into the stable, have them tuberculin tested to avoid bringing any cows affected with this disease among your healthy herd.

Watch for any discharge that might be due to abortion, as this is another disease you must watch.—Dr. David Roberts, Cattle Specialist, Wisconsin State Veterinarian.

A Florida reader has a heifer that kicks a great deal while being milked. She is quite tame, having been petted since she was a little calf. Such animals never kick unless there is a cause. There may be some derangement of the udder, or there may simply be a tenderness which causes her to object to the manipulation. If the cause is sought out and overcome the trouble can be quickly corrected.

The application of medicines is rarely of any value. The better method is to take a breast strap from the work harness and buckle the hind legs of the animal together by placing the strap just above the hock joints. Then tie the cow gently and manipulate the udder till the milk is drawn. After one or two attempts to kick, the animal will discover that it is useless and will stand quietly. If the tenderness is still present, after a week or so, the application of medicines may be resorted to. Take two drops of turpentine to each teaspoonful of unsalted lard and apply to the udder after each milking. If there is any slight soreness in the quarters, this will remove it. Massage the mixture well into the skin by gently rubbing after the mixture has been applied.

It may be that the udder has been bruised in such way that there are no external indications of the bruise. If care is used in milking for a few weeks, the injury will heal and the animal will cease kicking.—Agricultural Journal.

Continuing to churn after the butter has come spoils the whole batch, at least to such an extent that first-class butter cannot result.

Small waists are coming into style again, which is mighty good news to the short-armed man.

COMFORT OF A COW.

Mrs. M. E. Sherman, the Dairy editor of the Cultivator has written many excellent things along the line of comfort of the cow. To emphasize what she has written the following from Prof. Eof of Kansas Agricultural college is quoted, especially to show how well Mrs. Sherman is supported by other dairy experts. Prof. Eof says:

"Whatever adds to the comfort of the dairy cow increases the yield of the milk. Comfortable shelter and dry bedding and comfortable methods of fastening add to the milk yield. Frequency of feed and water, twice or three times a day, is largely a matter of habit, but regularity of feed is essential to secure the greatest yield. If feeding twice daily is the method adopted the cows should be fed the same hour every morning and at the same time selected for evening feeding every evening. The same rule holds good if the cows are given mid-day feeds. Regularity is very essential for if the cows have to wait half an hour for their feed after the usual time it will cause them to fret and cut down the milk yield."

LOSSES FROM TICK FEVER.

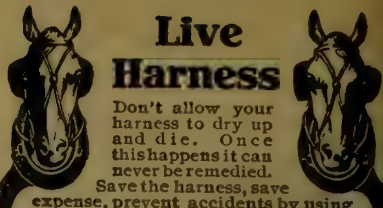
An item in the American Cultivator says that the Department of Agriculture has estimated that the loss from Texas fever, caused by the cattle ticks, amounted to from \$40,000,000 to \$100,000,000 within the last year. This is a wide margin, but taking the lowest figures it is a vast sum to be lost when the remedy is within reach of the cattle men. If all the owners of cattle would unite the plague might be stopped in a single year. It is no wonder that so many range cattle in this State are poor when you see how many ticks each one has to feed. Why not use a few barrels of crude oil and put an end to this drain on the vitality of the stock?

WATER THE COW.

The cow that is stinted on water these days will show a marked decline in milk product. Give the cow water three times a day and be sure to have shade provided. If no trees are at hand provide it from hay thrown on poles set in the ground. The cow must have shade and water or she will cease to supply milk in usual quantity. The milk will not keep so well either, for it is unnaturally heated in the veins and udder and sours quickly when exposed to air.

Every farmer should have from three to five good brood sows and one or two of these at least should be pure bred. Now it does not cost any more to buy a bred gilt, safe in farrow, than it does to buy a full blood boar. And if you are contemplating the purchase of a boar next year, we would suggest that you buy a bred sow now and raise your own boar. A good sow can be bought from \$20 to \$40, and if she has good care should raise 7 or 8 pigs this next summer. Sell two or three of the pigs for money enough to pay for the sow and what feed she and the pigs have consumed and you will have the sow and three or four pigs left for your trouble. Do it now, and get a start on the right road to successful swine raising.

Sorghum is especially valuable as a pasture for sheep and hogs. Cattle should be gradually accustomed to it as pasture. It makes an excellent summer and autumn feed for dairy stock.



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did. You can't afford to lose the price of one or more cows each year—there's no reason why you should. Get a Tubular and get more and better cream out of the milk; save time and labor and have warm sweet skimmed milk for the calves. Don't buy some cheap rattle-trap thing called a separator; that won't do any good. You need a real skimmer that does perfect work; skins clean, thick or thin, hot or cold; runs easy; simple in construction; easily understood. That's the Tubular and there is but one Tubular, the Sharples Tubular. Don't you want our little book "Business Dairyman," and our Catalog A, 25¢ both free? A postal will bring them.

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With the Citrus Growers

A BIT OF CITRUS HISTORY.

CITRUS CULTURE in California, like so many other lines of fruit growing, took its inception with the advent of the early Missions something like a century ago. In its beginning it was sporadic in character—the few trees of oranges and lemons (more especially limes in the earlier period) that dotted the landscape over widely separated points, usually found an abiding place within the shadow of the Mission Churches or their immediate environs. For the most part they were planted to supply local wants, no attention whatever being given to their culture as an article of commerce. In extent and variety they were limited, consisting chiefly of the seedling orange and the Mexican lime. This variety in kinds and sorts was universal—it was as pronounced in the sheltered portions of Northern California, in the great thermal belt of the San Joaquin and Sacramento valleys, as in Southern California. In so far as progress and development was concerned, there was none from the time of the advent of the early missions and the period of American occupation. Even after that period the advance was slow and purely local in character, representing small plantings of trees in gardens and limited orchards calculated to meet a local demand for fresh fruit. Some efforts were, however, a feature of the late sixties and early seventies, when oranges began to find their way to ocean vessels to San Francisco and other northern points, chiefly from Los Angeles county. These early shipments were usually sent out in bulk, sometimes in barrels, sometimes in sacks and at other times in boxes. In the northern markets these brought good prices, which greatly advanced the interest in citrus culture and stimulated planting to a little. The first great impetus to citrus growing, however, took its inception when the railroads were completed and made it feasible to ship direct to the Eastern markets.

began in '70.

Citrus culture as a great force in California's horticultural development, takes its date from about 1870. The year previous to that time, Riverside had already taken the initial steps toward becoming a great orange-growing section—a distinction which has been augmented with the years until it is recognized the center of the industry in the United States. At about the same time many other places were exploiting orange planting. Growing settlements with citrus culture as a basic industry were springing up all over Southern California, but chiefly in the San Gabriel valley. For the most part, these early plantings, when coming into bearing, paid handsome returns. In not a few cases as high as \$2000 was realized from a single acre, and from \$500 to \$1500 was not unusual. Naturally an industry yielding returns like this attracted men and money from all sections, with the result that land values increased rapidly and the new acreage being constantly planted, resulted in a development the like of which has probably no parallel in the annals of horticulture. A few figures in the rough will tell forcibly the giant strides made in 1890-'91, when Los Angeles county shipped 112 cars and San Bernardino county 12 cars including what is now Riverside county) 1708 cars; 1898-'99 when the total cars shipped from Southern California aggregated 15,000 valued at about \$12,000,000. Since that period the advance has been healthy, though it is quite so pronounced. At the present writing the total shipments from the south of the Tehachepi range of mountains will average between 25,000 and 30,000 carloads, valued at about \$19,000,000.

Both North and South.

While this development was going on in the southern counties, the American spirit of enterprise was not idle in other sections of the State. In the thermal belt of the San Joaquin valley from the southern portion of Tulare county along the base of the Sierra Nevada mountains, there is a vast area of country adapted to the orange and the lemon. Experimental plantings here and there gave early evidence of climate and soil conditions favorable to citrus culture. Notably true was this of the section of which the town of Lindsay is now the citrus fruit center. As a business proposition, oranges and lemons began to be planted in that locality about fifteen years ago, though experimentally, and in a small desultory way citrus fruits were known in that neighborhood as early as 1862-'63. Last year (1906-07) the shipments from Central California aggregated something like 2000 carloads. For the most part the fruit ripens earlier than in Southern California, thus insuring an independent market which in no way conflicts with the industry as between one section and another. At present there are about 4500 acres in bearing and fully 11,000 acres, both young and old, planted out. The quality of the fruit is in every way superb, clearly indicating that California's sunshine, soil and climate are quite as good in one section as in another. The natural supply of water in that region is ample and warrants prediction that at no distant date orange shipments will be pronounced from that section as raisins are from Fresno.

Besides these citrus growing empires within the borders of the State, there is also what is known in the trade as the Northern Citrus Belt. For the most part this is somewhat broken up or scattered over several counties, including Placer, Sacramento, Butte, Yuba, Stanislaus, Merced, Sonoma, etc. At particular points in all of the above northern and central counties, there are protected areas free from biting frosts in which citrus fruits find congenial conditions. Thus it will be seen that the orange and lemon, though rated as tropical fruits, yet find a wide geographical distribution in a State which is nothing if not a world unto itself for the growing of almost every fruit of the temperate and tropic zones.

In this development of an industry so great and profitable as the growing of oranges and lemons, there has necessarily been much to learn, not only as to methods and management of orchards, as well as conditions and environments, but also as to varieties, methods of picking, packing, shipping and marketing. The present generation of growers owe a debt to the pioneers of the industry that can never be wholly wiped out. How many varieties have been discarded! How many "systems" of pruning, irrigating, cultivating are now only the lore of books! How many disappointed hopes and ambitions have been blasted by ne'er-do-well orchards planted in uncongenial situations! What feasts of reason and unreason, what flows of soul and other things have we not heard at meetings of orange growers during the period of development! How many citrus fairs once captivated the public and centered the best thought, practice and product of the growing industry. What learned discussions both oral and printed, the insect enemies of the tree and fruit have called forth! All these things, elements and conditions about which even the most advanced in the industry were more or less in doubt, have all been satisfactorily solved. It is quite safe to say that the people who make the orange and lemon orchard pay, do so because they possess the "Know How." Take the one question of profitable varieties how the law of evolution has simmered the question down to a very few sorts. "The survival of the fittest" was never more forcibly illustrated than in the supremacy of the California orange and lemon.—R. M. Teague, in his "Citrus Fruits."

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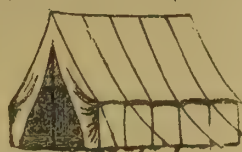
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The Vegetable Gardener

A FINE LITTLE RANCH.

IT WAS the pleasure of the writer to visit the gardens of the San Gabriel Garden Co., a mile and a half south of the old San Gabriel mission near Los Angeles, a few days ago. The principal crop raised on the place is that of strawberries, which have proved exceedingly profitable even during the past season. This profitability has been brought about by two prime factors: First, growing large quantities of fine quality; next, so packing as to command highest prices.

As to the quantity and quality we trust Mr. Lobingier will soon give explicit instructions for producing the equal, in this department. For the present we may say, that it comes from first securing fine plants; and next, thorough preparation of soil, which means the application of tons of stable manure and plowing in before the planting is done; followed by the finest tilth. Then after the planting, thorough care gives berries which command above quoted prices.

This extra price is not only because of the quality, but the attractive pack; attractive as not only to facing, but all the way through the box. The berries are graded into three grades: The first two vary but little as to size, but the best grade have long stems and only the highest colored and fairest berries. The long stems makes them attractive to the best hotel and exclusive trade. The second grade still commands above the quotations and are exceedingly fine fruit.

Both these grades are given additional prominence by a small band of white paper on which the name of firm and grade of the fruit is printed. This brand has doubtless added much to the income of the ranch. The smaller berries of the third grade are nicely faced and are still a most attractive pack.

Strawberries are not all the production of the place for amongst these are cucumbers which have added not a little to the income this year. We have never seen the culture of the cucumber carried on as Mr. Lobingier does it, and he is now preparing an article for the Cultivator readers, which will be illustrated with photos showing his manner of training the vines.

But the one point now to be made is this, that a little ranch given fine care is far better than a greater body of land with indifferent care. There are but few large ranches which can ever give the proportionate return which Mr. Lobingier's little five acres have done this year.

GROWING ONIONS.

As noted in the queries last week Mr. Lobingier, of the San Gabriel Garden Co., would furnish a few suggestions on onion growing, which will be of value in this, that whatever he writes about he knows from years of experience in the garden.

The best variety to plant depends on what kind of a market the grower has in which to dispose of them. If you think to market them in the early part of the summer you must sow the seed or plant the sets early in the fall. August for this locality (San Gabriel). For this season it is now too late, so that the grower would of

necessity have to plan to sell the crop in the fall. The yellow Globe Danvers is a very valuable variety throughout California. Possibly the best onion for the main crop is Australian Brown—if grown upon soil adapted to it. Good sandy loam that is well enriched will produce fine crops of this variety. It is the best keeper known.

Two methods are in vogue in onion raising. One is to sow the seed in well prepared seed bed and when the plants are large enough transplant into the open field in rows 12 to 15 inches apart and two and one-half inches apart in the rows. The other is to sow the seed in the open field at once.

Both methods have their advocates. For some unexplained reason transplanted onions will grow larger than when grown directly from the seed, and many hold that the labor of transplanting does not equal the cost of weeding and thinning the plants where the seed has been sown in the open field.

Pure ground bone would be a good fertilizer to use, putting it on the ground before planting, at the rate of 1000 pounds per acre. Mix it well in to the soil by going back and forth several times with the cultivator. Where one row only is planted a strip 15 or 20 inches wide would be sufficient on which to spread the bone dust. Sow the seed thinly and evenly, about February first. Be particularly to have the rows straight if you want to make it easy to do the cultivating.

When the plants are three or four inches high thin out so that what is left stands two and one-half to three inches apart in the row, and keep out all weeds. Irrigate as often as needed to keep the ground in moist condition; that is, never allow the ground to get so dry that the plants will suffer for want of moisture.

I want to add a word of caution to the novice about going into the business of onion growing on a large scale, until he has had experience, and particularly about expecting to get the prices next year that were obtained this year.

Some eight thousand acres are devoted to the business in the rich alluvial lands in the Sacramento valley, that met with destruction last year by floods, thus causing a great shortage in the supply. This may not occur again for many years.

The beginner almost always undertakes too much and fails. Begin in a small way until you learn the details of the work.—Q. A. Lobingier.

The executive committee of the American Farmers' Institute Workers have announced that the meeting of the association will be held in Washington, D. C., October 23 to 25, 1907. This meeting promises to be one of the most interesting that the association has yet held, a very complete programme having been arranged.

In the opinion of the Sun, the income of three-quarters of a million a year from lemons alone is only an illustration of what can be done along other lines of horticulture and agriculture. The lemon program for prosperity is not an expensive program. Other crop, including every other annual crops, can be made equally profitable.—San Diego Sun.

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The apple season at Freewater, Oregon, is proving profitable and excellent prices are prevailing.

The Ornamental Garden

THE IRIS.

IRIS is a genus of bulbous and herbaceous plants native in various parts of Europe, Asia, Africa and America. There is a large number of species, many of which have been cultivated in European gardens for centuries, and from which garden forms that are superior in many ways to the types from which they originated have been raised by intercrossing and selection. The types being so numerous, and the geographical distribution so wide, flowers of some species or varieties of iris may be seen in bloom at almost any season of the year, and under most varying conditions. Some kinds require a warm dry situation, with abundance of light and sunshine, while others are denizens of swamps, and require moist and shaded conditions to bring them to perfection. The flowers of most species are very beautiful, and are extensively used for decoration in Europe, where, in addition to the varieties grown in the flower garden, bulbous kinds are grown in pots and forced into flower prematurely in heated glass houses. Orris root, used in medicine and perfumery, is derived from *Iris florentina*, a species worthy of culture as a garden plant.

Irises are divided into several sections, but for the purpose of these notes it is sufficient to mention the principal groups only. The most generally grown are the Flag irises (*Iris Germanica* and its varieties,) in which are included other types and their hybrids. The chief characteristics of this group are:—The foliage is broad and in most varieties dwarf, rising from a creeping root-stock or rhizome, and the flowers large, generally blue, purple and white in color. They are all hardy and will thrive in almost any situation. Flowers of this section are produced in spring. The Japanese iris (*I. Kamperferi*) is fibrous rooting, and produces tufts of foliage 3 or 4 feet in height when well grown, above which the large distinct flowers are borne during summer. There is a greater range of color in this, than in any other section. It grows to perfection when planted beside water courses and in other damp places, but will also thrive fairly in ordinary borders if the soil is of a loamy nature.

The Spanish and English irises (also known as Xiphions) with other species, including *reticulatum alatum* and *juncum*, are true bulbous plants that produce their flowers during spring and summer. In the so-called English irises, the original types of which are natives of Spain and Portugal, the colors of the flowers are white and purplish shades; while the flowers of the Spanish irises are yellow, bronze, white and lilac in color. The foliage of this class is usually narrow and rounded.

The irises are plants worthy of much more extended culture being in most cases very hardy and easily grown—thriving without artificial watering. They produce beautiful flowers, which are excellent for general decorative purposes, and totally unlike those of any other hardy plant.

Soil—Situation—Culture.

The Flag iris will succeed in almost any kind of soil, that of a loamy nature being most suitable. No manure is required unless the soil is very poor and shallow, when some well rotted

cow or stable manure should be incorporated. Good drainage and sunny positions should be provided. The plants are increased by divisions of the root stock. A piece of the parent plant may be cut off with roots attached, and planted at about the same depth as originally occupied; the bare covering of the creeping shoot—as it really is—being sufficient. The soil should be firmly pressed and afterwards watered as in the case of planting out generally. After culture is mainly cleaning and weeding.

While damp, or even wet situations are suitable, it must not be assumed that they will succeed in sour soil. They will endure abundance of moving water, but not that which is stagnant. Divisions of the fibrous rooting kinds may be planted during autumn or early spring.

The bulbous section should be planted in autumn in well-drained and rather light soil. They are increased from offsets of the bulbs. The bulbs should be planted at a depth of 4 to 6 inches, and about 4 inches apart to allow for multiplication. They are most effective in the garden when planted in large patches, and may be allowed to grow undisturbed for three or four years.

A STORY OF CHINESE LILIES.

Very few people who see and admire the beautiful Chinese lilies know the reason why this particular flower is held in such favor in the Orient. This is the story of the origin as told by a Chinaman:

Years and years ago a member of the celestial empire had two wives whom he loved dearly because each had borne him a son. While they were still lads the father died and in settling up the estate some difficulty was encountered, for the man left his heirs two pieces of land, one a strip lying in a fertile and beautiful valley, the other a small ribbon of land bordering the bed of a narrow stream. The former land was known to grow anything the country produced, while the latter was counted utterly worthless.

It was at first proposed that each of the two strips be divided in half and a section of each be given to the two heirs. But the mothers could not agree upon the division and it was finally arranged that one son should take the rich land, while the other should take the sterile piece.

The valley strip yielded bountiful harvests season after season and the rocky one gave nothing until one day the boy owner happened to notice a tiny white, sweet-scented flower blooming among the rocks and after a careful study and examination it was found to be the only one of its kind in China. The flower grew from a bulb and the boy discovered that these bulbs could be transplanted to similar rock soil without destroying their growth.

Soon the bulbs were in great demand and when it was learned that the flowers brought good luck to the owner of the plant the boy had all he could do to supply the market. From the sale of the bulbs he grew enormously wealthy, while his brother never made more than a good living out of his valuable valley property.

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JEFFREY APPOINTED.

The appointment of J. W. Jeffrey, State Horticultural Commissioner, to succeed Elwood Cooper, was not unexpected.

Some weeks since Gov. Gillett indicated his determination to appoint Jeffrey before the close of the year and he has done so.

The advantage Mr. Jeffrey had in the contest for the office of Horticultural Commissioner was twofold; first, in age, being a much younger man than Ellwood Cooper, and second, in being a practical horticulturist. His early training on a fruit farm and in the nursery business, and the practical knowledge he obtained while so engaged has been of inestimable value to him in the many years he has been commissioner of Los Angeles county. During these years he has made himself a valuable official by reason of application to his duties and an intelligent knowledge of the needs of horticulture in general.

The office of State Horticultural Commissioner is in fact a big one, for it is the consulting head of all horticultural interests in the State. Unless we are mistaken in judgment, J. W. Jeffrey will prove equal to the needs of the office and reflect credit upon it by intelligent, conscientious application to its duties.

Mr. Cooper, who has been connected with the Department of Horticulture in California, in one position, or another, for 25 years, or more, retires from the office of State Horticultural Com-

missioner with the confidence of the people generally, and had he been a younger man would probably have retained his position. But there has been a feeling throughout the State that a younger man should be appointed, and this opinion we believe has had much to do in influencing the decision of Gov. Gillett.

The State will expect much from Mr. Jeffrey, and we trust and believe he will not disappoint his constituents.

TAXING THE FARMER.

Governor Harris of Ohio, has called a convention of governors to meet at Columbus, some time this month, to consider a proposition for a uniform law throughout the United States, covering taxation of farms and farmers.

Naturally it is an easy matter to assess farm lands, but a difficult one to correctly assess the personal taxes of the farmer on an equitable basis with the city dweller.

For many years assessors have worried with the proposition of how they can reach the personal property of the wealthy who live in the city. So expert are the rich in hiding their personal property that but a small per cent. of it ever reaches the assessor's books.

The farmer, on the contrary, can escape no part of his taxes. His lands are open to notice, his stock can easily be assessed and the only thing he can cover up is his bank account, if he has any. The plan of Governor Harris is to secure a uniform system whereby the farmer may get somewhere near an even deal with his city brother. He has never done so in the past, and we fear he will not be able to do so in the future. However, the suggestion of Governor Harris is worthy of consideration, for out of this conference may be devised a plan whereby something near equity, in taxation between personal and real property, may be arrived at.

It will be interesting to note the result of the Columbus conference at any rate.

BUYING NURSERY STOCK.

If any incident were necessary to emphasize the danger orchardists and floriculturists in California confront in ordinary nursery stock from disease infected points we have it in the White Fly.

This disastrous insect without doubt, was imported into the State from Florida. It may have come on plants sent through the mails, which escaped the eye of the inspection officers, or it may have found lodgment in express packages, no one knows certainly just how it was introduced. But it probably came in on plants or nursery stock which were not inspected.

Had the State Horticultural Commission been in the least degree negligent in enforcing the "clean-up" law, California would have encountered the most serious plague in its history, for the White Fly is the worst insect to destroy citrus trees and certain plants known to exist; it is the most destructive in its aggression. But it now looks as if this enemy is to be routed from our State and that another season will see it entirely destroyed.

The lesson we have been taught is a serious one; we have paid dearly for our lack of care in the loss of thousands of bearing trees. We ought not to need another lesson during the lifetime of the present generation. We ought never to order plants or shrubs, or nursery stock of any kind from foreign growers in infected districts, because we get the worst of it every time.

The different varieties of scale, which infest our orange and lemon orchards, were imported into the State. So was Red Spider. It would seem that we have had experience enough, in ordering nursery supplies from plague infected districts, to last us during our lifetime. But to make certain that we get no further experience we should cut out every shipment from Florida, and from the islands, and order only through State nurserymen who subject their consignments to rigid inspection.

It seems a little unkind to write this, but self preservation demands that we speak plainly.

Florida must eradicate the pests which infest its nurseries or cease to ship outside her borders. Neither foreign countries nor neighboring commonwealths can permit infected stock to be re-

ceived. Hence we say, order nothing from so insect infected countries but only from reliable home dealers who are responsible for what they sell and can be punished if they misrepresent their sales.

Horticultural Commissioners, from this time on, must exercise continual vigilance against importation of all plants from pest infected countries.

HELP US GROW.

There is not a member of our 12,000 subscribers to the Cultivator who could not send a new name before the first of January if he or she, would take occasion to speak to a neighbor of the value of the paper to the farmer, or fruit grower.

Scarcely a mail that does not contain one or more letters of commendation for the valuable information given in its columns from week to week. Some of these letters have appeared from time to time, and pages could be filled with them.

As a business proposition no grower in California can be without the Cultivator. It teaches the elementary principles of farming, fruit and vegetable growing, dairy and stock care and development with a vast amount of general information in regard to the conditions generally included in every issue.

Here is a sample of the letters which come into the office in almost every mail. "The Cultivator is my best friend in agriculture. It is of much value to me I could not be without it even if it cost me twice what I pay for it."

Another, "The Cultivator is invaluable to me. Its poultry pages alone pay for it every month. Under date of Oct. 4, a renewing subscriber says, "Send along the Cultivator; its articles on dairy and live stock are as good as the best I get in papers costing \$2.00 a year."

It has occurred to us that the Cultivator family could double itself in a month, if every subscriber would take the trouble to interview someone who does not now take the paper and get him a subscription. We have quite a number of friends who do this, and we greatly appreciate the service, and if each member of our family would only take a little time, it wouldn't require much time to do it, to present the matter to his neighbor, how quickly we would run our big list to twice its size. Realizing what this assistance would mean, can we be criticised for asking it?

We want to help every grower, and every orchardist, and every dairyman in California and we are endeavoring so to do. We are in this work to help others and we can but feel that we are asking little in return when we make this appeal to our subscribers to stand behind us, and be a part of us, in the great work in which we are engaged.

COVER CROPS.

Mr. Thorpe of Covina is one of the successful orchardists of Southern California. Although a young man he has given much study and practical attention to the subject of cover crops.

In an address before the Farmers' Institute of Pomona, he made some strong points in advocacy of cover crops and their value to citrus orchards. Of the different classes of cover he seems to prefer vetch, although Canadian field peas find favor with him.

When asked as to the time of planting he gave October as a favorable month because the crops should be matured by February. In order to obtain the best results the ground should be thoroughly irrigated; allowed to remain just long enough to work up with a drill, which must be done before the seed is planted. It is well to have the plants strongly rooted before the winter weather cools the ground, for in this case such a start will be obtained that the plants will keep a strong growth and not suffer from being dwarfed.

The value of cover crops is two-fold. First, in the mechanical effects, lightening the soil, and giving needed humus.

Of course, the better the fertilization the better fruit we shall have, and as only the best fruit pays it is to the personal interest of every orange and lemon grower that he use cover crops sufficiently abundant to produce the results desired. The thrifty orchardist will not allow his soil to become infertile for want of humus and the use of cover crops will remedy that defect.

Agricultural Notes of the Pacific Coast

Northern California

California furnishes one quarter of the nation's fruit.

Glenn county will have a thousand acres of rice next year.

Vacaville will produce four thousand tons of prunes this season.

An immense damage has been done by forest fires east of Lincoln.

Sutter county prunes are all on trays and the yield has been good.

Glanders is alarming live stock owners of Fair Oaks near Sacramento.

Vacaville has shipped about six hundred cars of green fruit this season.

The average yield of beets in Yolo county is about sixteen tons per acre.

Many acres will be planted with resistant vines about Santa Rosa this season.

Luther Burbank has an exhibit of pineapple cactus in the Ferry building at San Francisco.

State Horticultural Commission is making a strong fight against the White Fly in Oroville.

A Suisun valley fruit man has been shipping a small quantity of fruit to Manila this season.

Nevada city had a big forest fire last week burning one ranch house and doing much damage.

Thirty-five acres of land on the Tate Farm at Davisville have been graded ready for irrigation.

Tuolumne county has one hundred and twenty square miles of burned over area, as a result of a fire last week.

It is rumored that Mr. Harriman will expend over \$1,000,000 in icing plants to protect California fruit output.

Sheep men near Nevada City have been compelled to drive their sheep from the upper valleys by the falling snow.

A large number of Dunkards are settling about the new town of McDoel in Butte Creek valley nearureka.

The Southern Pacific and Union Pacific will unite in the construction of a large fruit icing plant near Sacramento.

The Headlandsburg Enterprise says that over two hundred acres will be planted to vineyards of that vicinity this season.

A fire destroyed a grape dryer near Woodland recently. It was filled with grapes and made a serious loss of over \$12,000.

A grain buyer of Willows paid 1.35 per hundred for Moravian barley. This is the highest price since pioneer days.

The Pacific Coast Sugar Co. at Hamilton city, claims it will have an output of seven million pounds of sugar this season.

The wool growers of Yuba and Sutter counties met at Marysville October 12th and made final arrangements for the sale of their product.

The Alta Beet Sugar Co. of Butte county, has been handicapped for some time for want of beets, but has now induced a large number of Portuguese to engage in the industry for the coming season.

Central California

Turlock is to have a new winery in the near future.

Tulare county lemon crop is declared to be fine.

Watsonville has shipped over eight hundred cars of apples to date.

The hay producers are clammering for shipping facilities near Turlock.

The bean harvest has turned out remarkably well in San Joaquin valley.

Twelve thousand dollars from twenty-two acres of peaches is one of Visalia's claims.

The exchange packing house at Lemon Cove has been enlarged by a 60x70 addition.

The streams of Monterey county are being stocked with trout from the hatchery at Sisson.

The first hundred cars of Malaga grapes shipped from Fresno netted the grower \$75 per ton.

Fresno bankers are combining and petitioning railroads to give cars for moving of the present raisin crop.

San Benito county shipped a car of apples to London the returns of which were nineteen shillings per box.

Sixty carloads of apples are ready for shipment and piling up in the packing houses at Watsonville for want of cars.

The raisin growers became frightened last week and did a vast amount of stacking of trays, but after all the weather remained fine.

The Italian-Swiss colony of Le Moore has brought suit against several growers of Kings county for non-fulfillment of contract.

The Fresno Chamber of Commerce is after a land boomer who is advertising dry lands as covered with irrigating water.

Fresno papers have given Hanford a hard dig on account of alleged wide openness in selling intoxicating beverages at the Hanford fair.

It will require five thousand cars to ship the hay from Tres Pinos and surrounding country. This means thirty cars a day for eight months.

The County Board of Supervisors of Tulare have agreed to advance \$1000 in aid of the county citrus fair to be held at Lindsay in December.

The State Grange at its meeting at San Jose last week discussed the matter of prohibition of foreigners of holding real estate in this country.

Governor Gillett has appointed J. A. Filcher secretary of the Board of Agriculture, as commissioner from California to the Alaska-Yukon exposition to be held in Seattle, 1909.

Watsonville has just shipped a carload entirely made up of three tier apples of such quality as to make Easterners sit up and take notice that California is some on apples.

Italian vegetable men of San Francisco have evolved a raw swindle by putting a section of well casing in the center of a sack of potatoes, and packing fine, large spuds around it, which after being filled with small potatoes or even dirt and rubbish is withdrawn leaving a facing all around of fine potatoes and the center absolutely worthless.

Southern California

Eighty pounds of sweet potatoes in one hill is the record at Imperial.

The first rain storm of the season was general over Southern California last week.

Orange men are pleased with the prospect of plenty of cars for next season's output.

Imperial valley dairymen are holding meetings looking toward securing help for their dairies.

The annual picnic of the Claremont Pomological Club was held at Ganesha Park, Pomona, last week.

The Brawley News says the corn crop of that section will show Imperial valley superior even to Illinois.

The Board of Supervisors of Orange county have elected W. S. McFarland of Anaheim, county veterinarian.

The wind of the latter part of last week did some damage to young oranges, but it is still thought the crop will be much in excess of last year.

"Within seventy days" is the promise of the constructors of the canal and flume which will give water to District No. 8, Imperial valley.

Two cars of oranges have been shipped this season from Redlands in a new pulp board box, which is said to be the equal of the lumber box.

Santiago Orange Growers' Association of Santa Ana received for the fruit of the year, \$185,456, of which there is distributed to the growers, \$145,180.

Fumigation is on in full force in San Bernardino county. Six county outfits are at work steadily. Besides this several contract outfits are doing some work.

The California Fruit Growers' Exchange is discussing the question of acquiring timber land and erecting mills for the manufacture of boxes for its members.

The late storm winds have been disastrous to the apple crop in Yucaipa valley. In some instances it has been reported that about one-third of the apples were blown off the trees. On other orchards the damage is nominal.

Southern California rural papers seem to be an easy mark for the shrewd soap advertiser who has secured a vast amount of free advertising because of the "marvelous" remedy supposed to be contained in a certain kind of soap.

The hope that wild turkeys might be imported from Arizona and placed on the forest reserves of this State is said to be blasted by the statutes of Arizona which prevents the shipping live turkeys from that territory. A new scheme is now on foot by which turkeys can be introduced from Mexico.

Riverside Heights' Association total shipment of oranges aggregates 278,643 boxes, which received the gross amount of \$490,533. The directors to handle the business for the coming year are: W. P. Russell, J. E. Cutter, Dr. J. G. Baird, L. H. Dr. W. Robblee, J. A. Allen, H. A. Westbrook, G. L. Winterbotham, J. W. Covert, C. W. Waite and H. D. French.

The Coast

Many moldy hops are injuring the reputation of the Oregon products.

A half crop at half price is a very hard blow to Washington hop growers.

The first Monday of October was observed as prune day at La Grande, Oregon.

The shortage of the pack of green corn in Oregon has caused an increase of price.

The grape crop of Lewiston, Idaho, began marketing about the first of this month.

A contract has been made for \$500,000 for an irrigation canal at Twin Falls, Idaho.

The Northern Pacific shortage of cars is proving embarrassing to Northwestern farmers.

Farmers of Colorado are happy over the location of the \$1,000,000 packing plant in Denver.

Linn county is to have a big apple fair on November 7th and 8th to be held in Albany, Oregon.

Nearly three hundred thousand American farmers have moved to Western Canada this year.

Marion county, Washington, will market two hundred and fifty carloads of prunes this season.

Every dairy and creamery near Spokane is working to its fullest capacity to supply the local demand.

A single orchard of two hundred acres of Royal Ann cherries is to be planted this fall at Eugene, Oregon.

At the disposal of a large body of land in Idaho which was by lot, \$10,000 was offered for the option of first choice.

Wild oats are proving a serious pest near Plaza, Oregon. The worst feature being that they sap the ground of all moisture.

Apples of which there are a great number raised near Pullman, Oregon, are said to be remarkably free from codling moth this season.

There is a strong competition between Colorado and Oregon potato growers which is causing an easier price than prevailed earlier in the season.

Investigation is to be carried on at Fort Collins, Colorado, in the manufacture of paper from beet pulp, the refuse from the manufacture of beet sugar.

At midnight of September 30th a reservation of government land was thrown open near Bend, Oregon, and the land was soon located upon. There were about three settlers for each 160-acre tract.

One milling company at Waitsburg, Washington, has one hundred thousand bushels of wheat piled outside its warehouse, and all day long ten mule teams are hauling additions to the big pile.

Inspectors of fruit in Washington, especially at Tacoma, have caused destruction of Oregon fruit, because of San Jose scale which has caused rather strained relations between those two sections.

The largest apple orchard in Island county, Washington, is eighty-five acres of about thirteen thousand trees most of which was planted years ago and proving remarkably profitable this season.

PER
2 BUSHEL
SACK

\$1.90

PER
2 BUSHEL
SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by all largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledge standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis Worlds Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland.
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis and Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

Beef Scraps Raw Bone

GUARANTEED ANALYSIS:

Protein.....65%
Fat.....8%

Made of Cooked and Dried Livers, Lungs, Melts and Clean Scraps. No fertilizer ingredients in these Beef Scraps.

GUARANTEED ANALYSIS:

Protein.....25%
Phosphates.....45%

Made of Clean Beef Bones, surplus fat removed. Cleanest Raw Bone on the Market.

Pure, Clean Animal Matter Poultry Foods

WESTERN MEAT COMPANY SOUTH SAN FRANCISCO CALIFORNIA

Lincoln Avenue Poultry Yards

—Capt. Mitchell's S. C. White Leghorns—

Utility birds of the highest grade. They will average from 150 to 280 eggs per year. The eggs will average 2 ounces and over in weight, with smooth, white shells.

Just a few breeders left at half price. **Positively no culls.**

Carl C. Curtis, Owner

Ranch Mirasol

Lincoln Ave. and Ventura St., Pasadena, Cal.
ALTADENA CARS

A GOOD TONIC

ACME ROUP CURE CURES

FEED TO YOUNG CHICKS WILL KEEP THEM HEALTHY AND VIGOROUS; THE OLD FOWLS WILL MOULT QUICKER AND EASIER; PULLETS WILL LAY EARLIER AND LONGER

LEE'S EGG MAKER

IS THE BEST TONIC MADE

LEE'S LICE KILLER

IS GUARANTEED

HENRY ALBERS CO.

315 SO. MAIN, LOS ANGELES

Beef, Blood and Bone Will Make Your Hens Lay

This is not a medicine but a high grade nitrogenous food. Write for free booklet "How to make Hens Lay." Our Poultry Foods are sold by all local dealers and manufactured solely by

The Pacific Guano and Fertilizer Co., Indiana and Yolo Sts., San Francisco, Cal.

Also Pioneer Manufacturers of High Grade Fertilizers. Write for our free booklet, "Farmer's Friend." Valuable to all farmers and ranchers.

When writing advertisers, mention Cultivator.

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experiences with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

POULTRY MEETING.

THE Los Angeles County Association held its regular monthly meeting Oct. 8 in Assembly Hall, Chamber of Commerce building. An interesting program well advertised brought out the largest crowd of the season.

The first number was an interesting talk by Mrs. Basley, editor of the Live Stock Tribune, on failures. She told us why so many make failures in the poultry business.

One of the reasons given was "the man, or woman, behind the feed bucket." We agree with her in this for we believe many failures can be traced to carelessness and indifference and lack of judgment in feeding than any other one thing.

John D. Mercer gave a talk on "his hobby" the Cornish Indian, and Mr. McLaughlin told us why the Wyandotte is the best bird.

Mrs. Hubbard, Mr. Schofield and Mr. Humphreys gave excellent talks. Mrs. Hubbard's paper:

"How I Hatch in Adobe Incubator."

I will first relate how I care for the eggs previous to incubating; also how the buildings are built.

The egg-house is built of adobe with walls ten inches thick. The roof has four-inch dead air space. There are two ventilators, one in the roof and one through the wall near the floor. Two windows with muslin tacked over and double doors. The egg shelves are two and one-half feet deep with a strip about two inches wide nailed in front. I use bran on the shelves, spread about one inch thick, and place the eggs in rows with the large end, or the end which has the air space, up at an angle of about fifty degrees. I turn the eggs from one side to the other with a little side turn at the same time once a day until I set them. If it is dry weather I sprinkle the floor and hang a wet sponge in the egg house.

Last November and December I kept eggs in this way for six weeks waiting to get hens. I set the eggs and hatched 50 per cent. The temperature in the egg house staid close to 55 degrees.

The incubator is a double building, the inner one being circular and 11 feet in diameter, the outer one square; there is a double roof with four-inch air space and two to three-foot air space between the walls. There is a ventilator in the center of the roof. The furnace is in one corner to the right of the double doors, and is so arranged that the fresh air enters from out of doors through a pipe into an air chamber over the oven. There it is heated and enters the incubator through a four-inch pipe and is distributed near the ceiling. The shelf on which the eggs are hatched is about three and one-half feet high, is covered with a layer of adobe; another shelf about one foot below and a third shelf made of boards laid across cleats on the ground below the second shelf. About one inch of bran is spread on the shelf before setting the incubator. It holds 3000 eggs.

I have the temperature at 103 degrees when I put the eggs in. I keep the temperature at 101 to 102½ the

first three days, then at 102, 102½, 103. I do not let the temperature above 103 if possible. Eggs under old hen do not go above 103, and will find that the eggs under hen's wings are not as warm as under the body. She turns them often in the night, as well as in the day and the eggs are not always at the same temperature. I turn the eggs twice a day and give them the same turn as in the egg house and change them about. I keep ten thermometers and one Hygrometer. The latter I keep at 80 to 85 degrees. The thermometers are placed on the eggs. I was by so doing that I found the temperature was less on a dead or cold egg; also, that at hatching time the eggs in which the chicks were about to pip would get very feverish as the temperature would run up as high as 107. On the other hand, a pipper egg five or six eggs away, the temperature would be only 103. I set the eggs at three days and again at seven days on the 19th day. I test all the eggs so as to place the lower end of the air space up and discontinue the regular turning the remainder of the hatch. Twice a day I place my hand on the eggs and, pushing them gently from one side to the other, stop where I began, so as to leave them in the same position. I do not depend entirely upon the Hygrometer for determining the moisture, as I can tell by the air space when the egg needs moisture. I provide moisture either by hand or with a small hand spray pump, the latter preferred. I even provide moisture to the eggs set under the hens at times. When chicks are two to three hours old, place them in a basket and set them on a shelf below the hatching shelf which is a few degrees cooler. After the chicks are about 12 hours old place the baskets upon the third shelf and keep the chicks in the incubator about 36 hours before taking to brooder.—Mrs. C. D. Hubbard.

Mr. Humphreys' Address.

Mr. Wm. M. Humphreys, ex-president of the County Association, made one of the interesting addresses of the evening. His subject, preparing birds for the show, is one of vital interest to all breeders of fancy poultry, and was truly appreciated by the present.

Mr. Humphreys has made a success of the poultry business in this State and his remarks will be interesting to all readers of the Cultivator.

He believes that we Californians are not getting enough for our birds although we have a reputation for high prices on poultry, and says that if the poultry breeders would establish a price and stick to it, they could command a price which would enable them to make a fair profit on the birds.

In speaking of preparing birds for the show, Mr. Humphreys said: "When a man begins to think about getting his birds ready for the poultry show, the first thing he does is to take out his poultry magazine, usually an Eastern publication, and looks it through for advertisements on breeding stock; and the man who can tell the biggest story is the man that gets the order. I have no bird

sell, therefore, I can speak plainly. Usually the Eastern "fancy breeder" has nothing more than an ordinary luckster. He gathers all the poultry for miles around, paying usually about 75 cents per head, and then dresses and cleans them up and sells them to the Western breeder at fancy prices. And, it is all in the advertising. Not long ago a friend mentioned a business proposition to me, and as I am always open to a "sure thing," I, of course, listened to what he had to say. The business involved about \$50,000 cash, ten thousand of which was to be the capital stock and \$40,000 was to be spent in advertising. It seems that the Easterners are good advertisers and good talkers and, therefore, get results. You can get results. So when you get your show birds, don't sent East. It is better to go to some friend, a well-known person in your community, who has established a reputation as a breeder, for your birds.

We may say that you have your flock started. The man who has the largest flock has the best opportunity for selection of birds for the show, although the small breeder has the advantage because he can give his birds more attention. The flocks of small dealers, therefore, respond to show conditions better than those of the large breeder.

Now we are getting down to show time. Some of our people say, when you select your birds for the show, give them straw rooms, cover the yards with straw. Many breeders have found, however, that the birds kept in straw runs, have taken on the mut from the straw. Some believe sandy runs to be better than those with straw; but if the birds are not accustomed to sand, they will naturally scratch more, and if there is any dirt, it puts the birds in a bad condition. In preparing my birds for the show after they are washed, I sweep my yards as clean as possible so that the birds do not get dirty.

Most of the breeders wash their birds in preparing them for the show. Some claim, however, that washing destroys the lustre of the plumage in black birds. At the last poultry show there was as fine an exhibit of black birds as I have ever seen in New York, Boston, Chicago, or any of the large Eastern poultry shows; and it would be interesting and of value to know how the breeders of these black birds prepared them for the show.

Mr. Humphreys then gave his method of washing birds, and also showed a clever invention of his for holding birds during the washing. To those inexperienced in this branch of the business, his description was very helpful.

WHITE WYANDOTTE FARM

The writer recently had the pleasure of a visit to White Wyandotte Farm at Inglewood. This is one of the best equipped poultry farms in the State, and breeds White Wyandottes exclusively.

The new manager, Mr. Robert A. Condee, is doing some hard work getting the place in shipshape for winter. Mr. Condee has been identified with the poultry business for a number of years and not only understands the practical end of it, but is also a true fancier.

Knowing how to mate, condition and prepare birds for exhibition, we feel that he will make a success in his venture as manager of the farm. The owners of White Wyandotte Farm ought to feel proud that they were able to get a manager that has had such a broad knowledge of the business as Mr. Condee.

Poultry Show Dates

San Jose, Cal., Nov. 11-16, 1907.—Annual Exhibition Santa Clara Valley Poultry and Pet Stock Association. Charles R. Harker, secretary, San Jose, Cal.

Oakland, Cal., Dec. 2-8, 1907.—Fourth Annual Exhibition of the Alameda County Poultry Association. C. G. Hinds, secretary, Alameda, Cal.

Los Angeles, Cal., December 5-14, 1907.—The Nineteenth Annual Poultry and Pigeon Show of the Los Angeles County Poultry Association Corporation. Comparison judging W. L. Sly, Hollywood, president; C. D. Hubbard, secretary, San Fernando.

Fresno, Cal., Dec. 11-14, 1907.—Tenth Annual Exhibition Fresno Poultry, Pigeon and Pet Stock Association. George R. Andrews, secretary, Fresno, Cal.

San Diego, Cal., Dec. 17-21, 1907.—Sixth Annual Poultry and Pigeon Show of the San Diego County Poultry Association. George I. Badger, secretary, San Diego, Cal.

Los Angeles, at Chutes Park, Jan. 6-12, 1908.—Second Annual Exhibition Breeders' Association of Southern California. Dr. Winslow, president; H. A. Meserve, secretary. Birds will be received January 1st. Judged by score card and awards read before public is admitted Monday, January 6th.

WHITE CHINA GESE.

These beautiful geese, though not generally known, are a most deserving variety and wherever tried soon become genuine favorites. They certainly combine both beauty and utility. They are often called White Swan geese, having a very long, slender and graceful neck, orange bill and large orange knob on their head, which enables one to easily distinguish the gander from the goose, as his knob is much larger.

They are of fair size, and are now being bred from two to six pounds above standard weight, which is a good idea. The feathers are very abundant, fine and soft, much more so than any other goose feathers; they are soft as duck feathers and much nicer. So there we have one good point as a market bird.

Here is another: If well cared for, they will lay for eight or ten months in the year, and as a rule the market price is three times that of chicken eggs. Then, again, for home use the eggs are just fine.

The young are easily raised, requiring but little care or feed; about all they need is protection at night during storms, and plenty of weeds and grass, with enough water to drink.

As to pets, they are the friendliest to be found. They will soon learn to understand just what you want them to do, are easily confined, as they do not fly, and can, after one or two attempts, be driven anywhere. The crows and hawks have never bothered mine, though they are death on chickens.—Farm Life.

Hen Fruit Pays. If you want more, feed

Egg-More

Poultry need to be fed a scientifically balanced ration as much as any other stock. Egg-More is just the thing to mix with good grains to make the same a rightly balanced ration. It is highly nitrogenous, very rich in protein, will keep the hen in good health, sustain her system properly, and enable her to lay lots of eggs when they are scarce and high. Just a little fed daily with good grains, or even with bran, as directed with each package, will do it. It can be fed either dry or as a mash. It contains no cheap filler; the hens like it, they eat it, there is no waste. It makes the cheapest Egg Food especially if you can buy your grains at home cheaper than to ship them in. Many so-called "poultry foods" and "egg-makers" are nothing but stimulants and not advisable to be fed regularly. Egg-More is not a strong tonic and stimulant, but merely contains enough condiments to give the food relish and keep the fowls in fine fettle. It will pay its cost many times over in the increased egg yield. 4-lb. package, 35 cents; 25-lb. pail, \$2.00; 50-lb. sack, \$3.75. If your dealer doesn't keep it, we will deliver a pail or sack freight prepaid by us.

West Coast Stock Food Co.

818 San Fernando St. (Through to Alameda) Los Angeles, Cal.

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Because They are manufactured in Los Angeles—always fresh.

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Duck Eggs \$1.50 per 12.

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No other crop in the world as rich or as certain. Our plan is simple and safe. Your money does the work for you.

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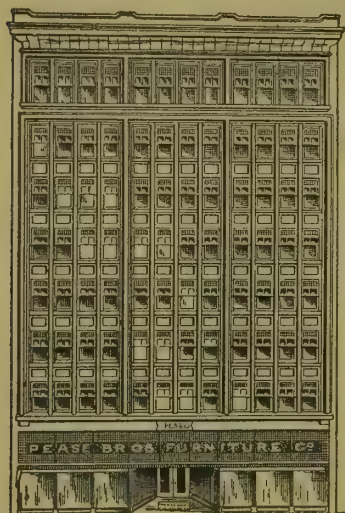
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BOX O

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Spargur's Trap-Nested White Leghorns

Laying Pullets six and seven months old from above hens, at \$15.00 per dozen. Also I. R. Ducks and Drakes at \$9.00 per dozen.

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Breeder of White Leghorns, Black Minorcas and Barred Plymouth Rocks. Eggs for hatching, \$2 to \$5 per setting. Single birds, trios and breeding pens a specialty.

Yards at Ranch (10) Phone Main 1583
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Black Minorcas Exclusively

Show Record at Los Angeles, January, 1907, 5 First Prizes, 4 Seconds, 4 Thirds, 3 Fourths, 3 Fifts. Also two Silver Cups. They will make money for you. Stock and eggs for sale. Catalog free.

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White Wyandottes (Hubbard Stock)

Egg, \$2.00 per setting, \$10.00 per hundred
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Good, White, Typical Birds.

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W. A. SEYMOUR

470 No. Beaudry Ave. Los Angeles, Cal.

EGG FERTILITY.

From Mr. Schofield's talk at the recent meeting of the Los Angeles County Poultry Association, we quote:

I take for my subject tonight, fertility instead of the one that your committee has assigned to me. I was asked to talk on my first big hatch, of which there is very little to tell. My first and second hatch reminds me of the story of the Irishman that tried to kill a weasel. He said that the first lick that he hit it, he missed it, and that the next time he hit it, he hit it in the same place he missed it before. This is about the way I got my first two hatches off.

Until I came to Southern California my experience had always been with white shelled eggs, principally White Leghorn. I used to think that if an egg was fertile it would start. But I have learned by experience that although the eggs are fertile and placed in the incubator, at what is commonly considered the proper degree of heat, all will not start, many will naturally say that the fault is in the incubator and not the egg.

Our court of appeal on this subject is and probably always will be the hen; yet how many, many times have we set two hens or even more, side by side and get good hatches from one and poor from the other. Again, we often have good success hatching our eggs ourselves and sell some to a neighboring customer and they fail utterly to hatch them. Yet we know positively that we gave them fresh eggs and eggs that had the same care as the ones we set ourselves.

Cause of Poor Hatch.

I don't know as I can explain this to you satisfactorily, but we will say that a perfect egg would represent 100 points and that an egg that was not perfect, say one representing only 70 points, will hatch; then with a perfect egg we have 30 points to waste and still get a chick. This 30 points is taken or lost in various ways; for instance, your thermometer may be a little off; your parent stock may be low in vitality or may not be getting food that contains the proper amount of lime to make a shell that will retain the moisture that is in the egg; you may keep the eggs too long, or, as one party told me, he could not hatch his till they were over two weeks old.

We find that if we start our incubator at 102 degrees with white-shelled eggs, that to get a good hatch from brown-shelled eggs for the first 36 hours we must keep the heat one-half degree higher. We never keep the heat up this extra half degree longer than 36 hours for the germ lies close to the shell and the extra heat will kill your germ.

PROFESSOR ANDERSON TO BERKELEY.

A new addition has been made to the department of agriculture in the person of Leroy Anderson, at present head of the California Polytechnic School located at San Luis Obispo. The new appointment will take effect November the first. Professor Anderson's title will be that of Professor of Agricultural Practice and Director of the Farm School, while Professor Wickson's will be that of Professor of Agriculture. He became instructor in dairy husbandry at the University of California in

1900. In 1902 he became Director of the California Polytechnic School at San Luis Obispo, and has for the last five years held that post.

The Galveston News of Sept. 1 show a wonderful advancement made by the port during the past year.

Galveston ranks second among the ports of the United States in the value of foreign exports and second in the total of foreign business. Galveston ranks eighth among ocean and Gulf ports in the value of foreign imports and twelfth among customs districts. Galveston holds first place as a cotton and cotton by-products exporting port in the world.

Galveston has a minimum depth of thirty feet in the harbor channel and 23 1/4 feet on the bar. Many times vessels drawing 23 1/2 feet can put to sea.

The protection work along the beach is now so far advanced by the completion of the Seawall and the raising of the grade of more than half the area to be filled that one can get a definite idea as to how the entire work will look when completed. Galveston has a total Seawall protection of 4.37 miles, extending completely around the Gulf side of the city. Eight blocks of the Seawall Boulevard have been completed.

POULTRY SUPPLIES AND INCUBATORS

Agent for **Dayton's Roup and Canker Cure**, positively guaranteed to cure or money back. Send 50 cents for trial package.

Newest, finest largest, and most central store. Prices the very lowest. Come and see.

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Denver & Rio Grande and Mo. Pacific
To St. Louis

Denver & Rio Grande and C. B. & Q.
To St. Louis

D. & R. G., Union Pacific and Northwestern
To St. Paul

Information, booklets and rates furnished with pleasure by all agents of the Salt Lake Railroad

Why America Needs a Parcels Post?

The United States is behind the rest of the world in a good many respects. You may not have realized it, but it is a fact; and one of the places where she suffers most by comparison is her lack of a parcels

Postmaster-General Vilas wanted it, but the Post Office wanted it. Bissell wanted it. Now Mayer wants it. By the administration, he will have before the next Congress. Does America need a parcels

Post are four very definite answers

Express package weighing three pounds was sent from an American to a city of the Argentine Republic. The charges were \$6.30. The present English parcels rates, the carrying charges have been 57 cents.

Does it get this business, England or the United States?

A European merchant ordered goods from Minneapolis. The goods cost \$30. The carrying charges was

Can Europe afford to buy goods in America?

Is it a foreign business, you say, to make domestic comparisons.

At present rates for domestic parcels are 6000 per cent more than Germany's are under her parcels post.

Does it?

A domestic parcels post would save the small consumer—the people—\$250,000,000 every year.

Does it get this \$250,000,000 now?

Our big express companies get it. That's the reason they bought the idea of a parcels post so bitterly. Then the government gets some.

Opposition comes from many retailers and from country dealers. They say that a parcels post would rob them of their business and give it all to the big order houses. Doubtless there is truth in this contention, but the small dealer forgets that under a parcels post system he, knowing the needs of his trade, could order small quantities of goods at very little shipping cost; he could anticipate the needs of his trade and satisfy it all cheaply as the mailorder dealer could build up at no financial risk a very profitable commission business.

He would lose little; the consumer would gain everything.

Front Gate.

Thousands of people are not served by the express companies. A parcels post would bring the express to the front gate.

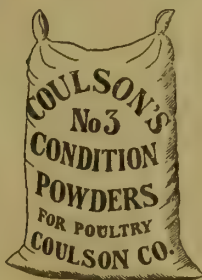
A parcels post would make every free delivery route self-supporting and would result in thousands of additional free deliveries.

Think of your express bill, and then think of what foreign countries have

Russia-Hungary sends 11-pound parcels 10 miles for 6 cents, further parcels for 12 cents. Great Britain sends 1 pound for 25 cents. France sends 2 pounds for 25 cents. Switzerland sends 11 pounds for 8 cents, and as much as 44 pounds for 33 cents. Express companies charge 64 cents for four pounds. Our postoffice sends four pounds for 16 cents.

Postmaster-General Meyer is not going to do everything in a hurry. He is willing to make haste slowly. He is willing to limit his parcels post to 10 pounds or even to 5 pounds. But he wants to make something.

Are the people the ones who save the money.

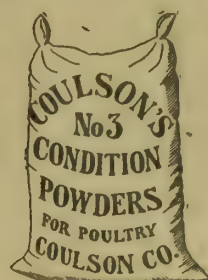


Coulson's

No. 3

Condition Powder

For Poultry



If you are not already using COULSON'S NO. 3 CONDITION POWDER, we would suggest that now is the time of year when your hens most need a tonic, to get them into condition after a heavy laying season. If you neglect them now, and they go through the molt in poor condition, it is likely to take them a long time to start laying again, with consequent loss to your pocket.

WE CLAIM

COULSON'S No. 3 Condition Powder

will put the flock in good, vigorous condition, not only enabling them to withstand any possible infection or disease, but enabling them to go through the molt rapidly, and to commence laying again before the cold weather sets in. We practice what we preach, by giving our own hens a little of Coulson's No. 3 Condition Powder three times a week, and although they are beginning to molt heavily, their combs are as bright and red as at the beginning of the season. You will find that it does the same with yours if you give it a fair trial. It will not only do this, but will enable the hens to digest a much larger proportion of their food and thus save your feed bill considerably. Therefore, if you wish to make money this fall and winter, inquire right now at your dealers for Coulson's No. 3 Condition Powder, and see that he keeps a stock so that you have it when you want. Where the local dealer does not keep it, we will make you a SPECIAL OFFER to deliver it freight prepaid to any Railroad Station in California, at the following prices:

10-lb Package, \$1.50; 25-lb Package \$3.25;
50-lb Package, \$6; 100-lb Package, \$11.

Prices prepaid to R. R. Stations in Oregon, Washington or Nevada will be: \$1.75, \$3.50, \$6.40, \$11.50 respectively.

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LOTS OF EGGS WHEN PRICES ARE HIGH.

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and Stock Food
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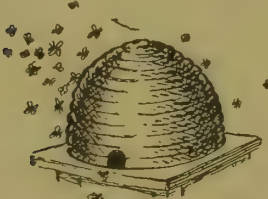
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Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Eczema.

We have a registered Jersey cow which, since she has been in our possession—a matter of some four months—has not given more than four quarts per day. She was fresh late in fall, and about the time of purchase had not been fed properly to produce a maximum flow of milk. Along about the first of June we observed an abrasion on the skin on the side of her udder which we supposed was caused in some way by her active behavior in the corral. As the weather became warmer and the flies more active we noticed numerous small eruptions on the sides of her neck and shoulders which were a great attraction to the flies. These small sores were about an eighth of an inch in diameter covered with a scab which, when picked off, would uncover a watery exudation underneath. She now has several larger sores on various parts of her body, including one on each side of her udder, which by continual scratching she keeps fresh and unhealed. Though a young cow she has borne a very sober manner ever since these sores began to come out, and she is somewhat lame since, also.

One veterinary who examined her pronounced the trouble due to indigestion, and gave her medicine for it and advised application of diluted creolin to the sores. They began to disappear upon treatment, but a day or two ago they came on again and we called another veterinary who pronounced the case eczema at once, and has given us no hope of relief—inf her or of effecting a permanent cure. He says the sores might be temporarily dried up by a prescription which he stated would be expensive and at the same time be of no service as the trouble would be sure to come on again with warm weather and that during it her milk would be unfit for use.

Her feed has consisted principally of alfalfa hay with bran mashes and green feed in season. Her appetite has at no time been what it should be for a cow of her size and weight, nor has her consumption of water been hardly normal, even in hot weather. Inasmuch as she is a valuable animal we are not desirous of losing her if there is anything in reason that can be accomplished by treatment. While not a cow sharp, the writer is of the opinion that both veterinaries are partly right, but that neither has solved the problem or reached the root of the trouble. Can you?—R. M. C.

Eczema, or may be tubercular. Have her tested first of all. The local treatment with creolin has been good. If the cow does not react under tuberculin, then I should take her in hand and give her a change of diet, by making the ration wider, adding oil meal and a little corn, with salt. Or if more convenient, try one of the condimental foods added to her ration. The causes of eczema in the human family is indigestion, usually. Keep bowels regular with Epsom salts and give her daily a dose of one teaspoonful of bisulphite of soda for a month. These are merely suggestins, for eczema is one of the most stubborn diseases known to the doctor in the human family.

Rheumatism.

Please answer through department, is there anything that will cure a mule or horse of rheumatism. I have one that has got it and I have done everything that the veterinary surgeon has told me.—G. M., Downey.

I do not believe there is any remedy for rheumatism in a horse or mule. Take care of him by using a

blanket when he is warm and watch his kidneys; when he does not pass enough water give him some salt-petre, a teaspoonful in his feed at night and morning for a couple of days.

Indigestion.

I have a number of five and six-months-old pigs that become weak, cannot stand up, eyes seem glazed, some partly blind, others entirely. Breath seems very short; will not eat. Are that way for several hours, then get better; their feed, alfalfa, pasture, shorts and skim milk. I would greatly appreciate an answer in coming issue of Cultivator.—J. E. H.

These pigs have indigestion and should be shortened up in their feed promptly. Reduce the shorts and see that they are not constipated. Then see the pasture, what it contains? There may be some weed that they are eating of that is making them ill. The best way to read up about pigs is to take up one of the papers of the Middle West. I find most information about pigs in the Breeders' Gazette of Chicago.—M. E. S.

Lameness in Cows.

We have several cows that get lame every once in a while and the trouble seems to be between the knee and foot, but can not find anything the matter with them. We have four and all act the same way. Some have it in their front legs; some in their hind legs. It usually lasts about seven to ten days before they get over it. The cows are running in green alfalfa and get dry hay every morning.—F. H. W., Tulare.

I should look to some cause for this lameness. Either sticks in the hands of the herdsman, a dog nipping them, or else bars they have to step over. Look for some cause in the field or barn.—M. E. S.

Carnations.

Will you kindly give some suggestions in regard to the culture of carnations. Do they require a shady or sunny location, and rich or common soil? I have mine in good garden soil, in a rather sunny spot and water freely, but they do not give satisfaction. They grow well and look thrifty, but so soon get to looking old and ragged, and never bloom as profusely.—Mrs. F. T., Santa Ana.

Carnations delight in a cool atmosphere, and I think all who live inland from the coast will find it difficult to keep them looking thrifty throughout the entire summer.

The soil should be rich and the location in open sunlight. On the approach of warm weather the soil about the plants should be heavily mulched. I use fresh strawy manure from the horse stable and renew it from time to time as is needed. You must be sure to secure vigorous healthy stock in the first place, as no matter how good the care, if the plant is weak or diseased, the result will be disappointment. Our friends who live near the coast succeed admirably with the carnation in summer. While we who live inland can't have their cooler atmosphere, we must do what we can to keep the ground cool by heavy mulching, if we want any blooms during the summer months.

Borers—Sour Sap, Etc.

A subscriber whose address has been mislaid, sent the following batch of questions some time since, which were referred to H. G. Keesling, Edenville, and the answer has unavoidably delayed.

(1.) After borers have been cut out of the tree trunk this season would it be a preventative if I spray the trunks with crude oil, and soda, then later give them a coat of whitewash?

(2.) Is there any way to restore health to prune trees that have turned yellow, this season especially heavy soil? They perhaps are sapped.

(3.) Please inform me where proper and most reliable place is to send soil to have it analyzed that I might learn just how and what to use to fertilize same? And also whom I may learn as to different seeds which may be inoculated?

(1.) I have no doubt that the treatment you mention will prevent, in measure, at least, the ravages of peach tree borer. I have used



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Showing the Method of Attaching to Cook Stove

A device for using low grade distillate. Saves 40 per cent of cost of coal or gas—let us prove it. Write for circular.

Hague Domestic Oil Burner
214 Winston St. Los Angeles, Cal.

success whitewash with some coal tar and salt added. The salt helps the whitewash to stick, and the coal tar is a good covering for the wounds made by cutting out the borers.

(2.) It is doubtful if prune trees that are sour-sapped can be restored to health. However, they may have turned yellow and dropped their leaves from some other cause, possibly lack of moisture. If so, they may recover next season.

(3.) Address Prof. E. J. Wickson, State University, Berkeley, Cal. He will doubtless direct you how to proceed to get the information you desire. H. G. Keesling, Edendale.

As to seed inoculation, the legumes, peas, beans, vetches, etc., may all be inoculated by securing soil from ground where the particular variety you wish to inoculate has been successfully grown. Care should be exercised so as not to introduce injurious fungus, that is, if your ground is to be used for melons or garden, do not get it from place where melon wilt or tomato blight existed; or if in lemon orchard, do not introduce soil from other lemon orchard where brown lem-rot has existed.

Unless sure, you can write the Department of Agriculture at Washington for the bacteria, being sure to designate the particular seed you are to plant.

Willow Posts.

Treating willow and poplar wood posts and vineyard stakes is profitable. One of the university professors suggested that it might be well to try blue stone solution the same as used for wheat smut, as a preventive of rotting. Four years ago we began to peel the stakes as fast as cut and stood the ends that were to go into the ground in a trough of blue stone water. They remain there forty-eight hours and are then laid out to dry. I think this is probably what your correspondent has in mind the other day.—M. E.

Onions.

For some information in regard to the planting of onions. What is the best kind to plant? Will

Veterinary Instruments, Black Leg and Thrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles.

they produce well on upland where it will be necessary to irrigate. I have good heavy sandy loam land. I expect to plant to trees and vines, and if practicable I would plant onions.—R. H. Modesto.

You can plant onions between trees or vines while they are growing, and cultivate with horse each side very cheaply.

But for fuller answer, see Mr. Longhinger's article on "Vegetable Gardening" page.

Alfalfa.

Can a cow eat enough alfalfa hay, properly cured, to hurt her? Suppose it has been cured properly, but is fed when wet with fog?

What is the difference between the bran put up in 100-lb. sacks and that put up in 80-lb. sacks?—Subscriber.

A cow that is accustomed to eat alfalfa regularly will not be apt to eat more than she can carry. I have always fed the hay outside and the cows ate all they desired without any of them overeating. I have never had it hurt them and we have heavy tule fogs in the winter time.

I do not know; I have bought Eastern bran in small sacks in carload lots. The potato sack comes in two sizes, or at least the Chinaman sells local potatoes in the barley sacks that are about the difference you quote. So may not the smaller sacks be from a different market?

"Hives."

I have a fine Jersey cow and she seems to enjoy life—good appetite, clean eyed, active, and so far as we can see perfectly healthy. She had her calf in February, but it is a three-year task—or was the last time and she seems equally slow now. She has every now and then a swelling come on the udder; one teat alone being affected—the milk coming clotted. Can you help me guess at the trouble? It has been so for a year that I know of, but the trouble occurs more frequently. Does her semi-barren condition account for it?

Just about two weeks before the birth of her calf in February she broke out all over with what would be described in humans as hives. Small swellings varying in size, but lifting the hair. We did all sorts of things for her at first attacks—salts, soda, rubbings on the spine, but on the next occasion only a few days after, we did nothing and she got well quite the same. No one seems to have ever seen anything like it before.—A. E. F.

Hives or nettle rash from indigestion is a check of perspiration or

caused by a sudden change of food. I should not give her salts if the bowels were constipated. Now I am sorry that no one around ever saw a cow that was too well fed before. They are rare I know. The udder trouble is overfeeding as well, and not milking to the last drop probably. Now, when this cow shows the trouble, cut out every other meal for a week. Her barren condition is probably from internal fat. But whether she fails to come around or fails to conceive you do not say, so it is not possible to tell you what to do for it. A general reduction of the fattening portion of this cow's food will probably bring her around all right.

Distemper.

I have a three-year-old mare; had what we thought was distemper last February; soon after swellings came on her lower jaw. One broke, but they have never gone away. At times they appear larger. Please give me a remedy and what is it?—K.

The symptoms you give are similar to distemper. But the glands remaining swollen is also a symptom of glanders. That is, if she has any discharge from the nostril on the side the swollen gland is on. If not a cantharidin blister will scatter the swelling.—W. J. Oliver, V. S.

Care of the Eyes.

Please tell me what to do for my eyes? I am a man in middle life, have never abused my eyes by long night reading nor by dissipation, but they are weak and pain me at times considerably.

The above question is answered by Dr. Polasky, 317 West Third Street, Los Angeles, as follows:

The most common eye diseases in California are what might be termed a catarrhal ophthalmia (an inflammation of the lids and the ball of the eye.) commonly caused by catarrh in the head, which in turn is caused by extreme changes in the temperature between night and day.

The application of some patent medicines or home remedies usually recommended results in iritis, the most dangerous of all eye diseases, not only destroying the sight of the eye affected, but there is great danger of losing the sight in the other eye from sympathy. The dictates of

For practical cow milking machine see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles.

good sense would really seem to be forgotten where the eye is in question; for surely, if there be any faculty of the body of preëminent importance and value, it is the faculty of seeing, and if there be any organ whose delicate and intricate structure demands the most patient and intelligent study and finished skill for its proper comprehension and successful management, it is the organ of vision. Yet this seems to be a lesson which the community is most unwilling to learn; and multitudes of eyes, too valuable to be thus thrown away, are sacrificed to ignorance and neglect.

In case of any serious eye trouble the best advice would be to consult a specialist, but if you must treat your own case you had better treat the cause, which as stated above, is catarrh.

Asparagus Rust.

This spring I planted about ten pounds asparagus seed. It made a remarkably fine growth, but when about two feet high was attacked with rust. Upon first appearance I sprayed with a strong solution of Bordeaux, but in less than two weeks the entire field was brown as an old wheat stubble. The plants are now sending up new shoots which are more or less affected with rust.

Would you advise setting these plants in the spring? Can asparagus rust be controlled?—H. W. N., Long Beach.

This question was referred to Prof. Ralph E. Smith, who answers:

I have your letter of the 2nd inst., enclosing your subscriber's question about asparagus rust.

As regards setting these roots in the spring, I have no doubt that they will make good plants if they have made the vigorous growth which is mentioned. There is no great danger of carrying over the rust by planting such roots, and the only objection to their use, is that which comes about when the growth of the seed bed stock is badly injured and the roots stunted by the disease.

The best treatment for the rust, as explained very fully in our Experiment Station Bulletins No. 165 and No. 172, consists in applying dry sulphur in summer to the tops, commencing before the rust appears. Full details of this treatment can be obtained by sending to Berkeley for these bulletins.

The tops must be well covered with sulphur before the disease appears.

In case of the seed bed it is quite an easy matter to control the disease by keeping the young growth thoroughly sulphured all through the summer. Asparagus growers in some of the worst sections near San Jose and Sacramento have been controlling the rust with great success for several years by the sulphur treatment.—Ralph E. Smith.

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The moment you have won it;
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Before you can repeat it;
Forget each slight, each spite, each sneer,

Whenever you may meet it.
Remember every kindness done
To you, whatever its measure;
Remember praise by others won
And pass it on with pleasure;
Remember every promise made
And keep it to the letter;
Remember those who lend you aid
And be a grateful debtor.
Remember all the happiness
That comes your way in living;
Forget each worry and distress;
Be hopeful and forgiving;
Remember good, remember truth,
Remember heaven's above you,
And you will find, through age and youth,
True joys and hearts to love you.

—Pricilla Leonard.

TAKING CARE OF BUD.

IT SEEMS to me that whenever I try to do someone a kindness I get myself into trouble. People are so unappreciative.

Yesterday our neighbor, Mrs. Babcock, brought Bud, her baby, over to our house and asked if she could leave him while she went downtown. Grandmother was asleep and no one else was at home, so, of course, I had to take charge of him. I put him on a rug on the porch and gave him some napkin rings to play with. Then I lay down in the hammock and was reading when an automobile stopped in front of the house.

"Lucile," said Arthur Knight, running up the steps, I've come to take you for a spin."

"But I have this infant on my hands," I said.

"Bring his nibs along." Arthur suggested when I had explained Bud's presence. "It's time he was learning to be a chauffeur."

But Bud didn't appear to take to motoring. He let forth such heart-rending wails after the machine got under way that I'm sure the people on the street thought we were kidnapers.

"I suppose we'll have to take him home," I sighed, as his shrieks grew louder and fiercer.

"Why, we've just got started," objected Arthur. "I wanted to run out to the golf club."

"I tell you what we can do," I said, as a sudden inspiration came to me. "We can leave Bud at Frances Marsden's. She adores children. It will be quite a treat for her to have a visit from Bud."

Just then the baby gave a fearful yell and Arthur laughed. "A musical treat?" he asked.

"Oh, he'll stop crying when he's out of the automobile," I answered him.

Sure enough there never was a seener baby than the one I handed to Mrs. Marsden's maid a few minutes later.

"It's the best joke on Frances," I said, as I stepped into the car again. "Her new maid didn't know me and she looked astonished when I gave her the baby and told her to ask Mrs. Marsden to keep him for awhile."

There was a crowd at the club having afternoon tea. We had just sat down at a table when Arthur was called to the telephone. By the time he came back I had been joined by Betty Coleman and Malcolm Cox. Arthur said his mother had asked him

to come home at once. He did not know why she wanted him, but he was punctilious about obeying wishes, so he was going to start back to town. I felt sure that he had just telephoned him because I guessed that I was with him. Mrs. Knight is one of these cold, distant women, who appear to have a great deal at any girl whom their sons take a slightest interest in. Mother's good looking sons are apt to be self-satisfied, I think.

"Stay with us, Lucile," said Betty. "Yes, do," urged Malcolm.

For a moment I hesitated and then I decided to stay. If Arthur thought I was going to run home at mother's beck and call he was mistaken.

Malcolm suggested that we go for dinner at the club and then back to town in time for the play in the evening. I called up mother and told her I shouldn't be home late.

When Malcolm took me home I found we had left Betty at her house. I was at once there was something wrong. Although it was midnight our parlor was lighted and all the family were up. As soon as we stepped on the porch Mrs. Babcock rushed out wringing her hands and sobbing hysterically. She really frightened me dreadfully. Some people are so considerate.

"What is it?" I asked anxiously. "My baby, my boy!" she moaned. "What have you done with Bud?"

"Oh, Bud," I repeated in a daze. Then I remembered Bud for the first time in several hours. "He's right," I told her. "I left him with Mrs. Marsden's this afternoon." Soon as Mrs. Babcock heard the child was safe she fainted. Every one threw showers of water on her and made the storm complete, but she looked like a thundercloud as he assured me that I was the most rational person it had ever been his misfortune to meet.

"You should have told me about the baby when you 'phoned," said mother. "I didn't know you had dinner for him. I had no idea who you were, Lucile."

Even Malcolm looked rather queer when I said he and I would go to Mrs. Marsden's and fetch Bud. I suppose he felt sorry that he did not have a motor car at his command to take me in. But he 'phoned for a taxi and we started.

The Marsden house was dark when we arrived and we had to ring the bell twice before it was answered. Then Mr. Marsden, too overcome by sleep to recognize us, appeared in a rather a sketchy costume.

"Good evening," I said. "We have called to get the baby."

"You can't have the baby," exclaimed Marsden, in a low but excited tone. "I have just got the little darling to sleep and I've decided to keep him."

"Keep him!" I said in amazement. "Yes, keep him. He was left here and now he's mine. If you want him you shouldn't have deserted him."

I rushed past Mr. Marsden and flew up the stairs to Frances. She could hardly believe her eyes when she saw me and she actually acted as if I had no right to take Bud. I simply had to snatch him away from her and run.



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Malcolm and I were almost exhausted when we finally returned that crying child to its mother. I don't see what makes babies so fussy at night. Mrs. Babcock never even said "Thank you," after all the trouble I had been to!

If she ever asks me to take care of Bud again I shall politely decline. Father says, though, that I needn't worry, for she never will ask me.—Chicago News.

RECIPES.

Pressed Chicken.

Take a large chicken, boil in very little water. When done, take the meat from the bones, remove the skin, chop and season. Press into a large bowl, add the liquor and put on a weight. When cold, cut in slices and eat with sliced lemon or cucumber pickle.

Corn Oysters.

One pint grated sweet corn; one egg, well beaten; one-half teacup of flour. Mix well together and drop a tablespoon at a time in hot cottolene. Delicious for lunch with cold boiled ham.

To Poach Eggs.

Drop perfect eggs in a sufficient amount of boiling water to cover; do not allow them to boil; but let them steam until the white is jelly-like and the yolk entirely covered. Serve on toast.

Cream Cake.

Cream together one and one-half cup of sugar, four tablespoons of melted butter, and two eggs. Add one cup sweet milk, two teaspoons of baking powder sifted in enough flour to make a nice batter. Bake in jelly tins, and put the layers together with cream filling.

To three-fourths of a cup of sugar add one beaten egg, two teaspoons of flour, one cup of sweet milk, and flavoring to taste. Boil all together until the mixture is thick, then spread between the layers of cake.

HOMELY HINTS.

To remove blood stains, saturate with kerosene oil and let stand a few moments, then wash in cold water.

Starch is much improved by long boiling instead of being made in the usual way, by pouring the boiling water on it without further cooking.

When it is desired to remove a rusty screw which fails to yield to the screw driver, apply a heavy skewer or other piece of metal, heated red-hot, and when the screw itself is hot the trouble will be overcome.

Salt and water in proportion of four tablespoons of salt to a gallon of water will set colors, as will also ten cents worth of sugar of lead to the same proportion of water; but as the latter will also set the dirt, it is imperative that it be done before the garment is at all soiled.

A lump of camphor placed in the china closet will prevent any silver which may be in it from tarnishing.

When frying eggs have the fire low and slide them about the pan to prevent burning the thin whites.

A cloth saturated in gasoline and rubbed over porcelain bowls, tubs, etc., will remove dirt like magic.

Never hang a mirror where the sun's rays will fall upon it. The sun acts upon the mercury and clouds the glass.

It is not generally known, but to prevent cakes from burning, place a little bran at the bottom of the tins. This will save a lot of grumbling and vexation.

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PERHAPS all your life you have used common soap for shaving, and have never known what it was to shave with a real shaving soap—one made just for shaving. Buy a cake of Williams' Shaving Soap or a Williams' Shaving Stick and see what a comfortable, easy thing shaving can become. There is nothing like it.

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WANTED—100,000 PURPLE DAMASCUS grape vines or cuttings. Advise immediately with price. Imperial Valley Nursery, BOX 31, Imperial, Cal.

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FOR SALE—2 GOOD COWS, 1 JERSEY; \$45, and 1 grade, \$40; both giving milk. 50 Buff Orpington hens, pullets and broilers. Address, 490, Ave. 28, East Los Angeles, Cal.

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20,000 SEEDLING AND GRAFTED WALNUT trees for spring planting from selected seeds and grafts. A fine stock of apricots, peaches and plums. A. R. MARSHALL, nurseryman, Olive, Cal.

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EGGS FROM MY PRIZE WINNING Barred Rocks; won all special and 13 regular prizes on Barred Rocks at late Los Angeles show. Eggs from best pens, \$2 and \$3 per 15; \$10 per 100. Can furnish any quantity. Also offer extra bargains in breeding stock. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

PRIZE BLACK LANGSHANS, SHORT legs, heavy bodies, unexcelled egg-producers. Choice 1907 cockerels, \$3.00; eggs, \$2.00 per 13; \$10.00 per 100; delivery of eggs Sept. 10th. Indian Runner duck's eggs and stock for sale. CLYDE J. MOSS, Corona, Cal.

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The Produce Markets
Los Angeles Markets

LOS ANGELES, Oct. 16, 1907.

Butter.

Butter is still climbing, another five cent-raise being chronicled during the past week. The price is now claimed to be exorbitant by all not in the trust, and hand to mouth buying only is done with the majority of retailers. It is claimed that supplies will soon pile up and price will lower.

Creamery extra per roll.....77 1/2
First.....65
Dairy.....48
Cooking.....45@47
Eastern.....55@57 1/2

Cheese.

Cheese, both Eastern and local, is firm at the recently advanced prices. Over 20,000 pounds of Eastern cheese came in yesterday and receipts of local amounted to 7466 pounds, but demand is strong and dealers are having no difficulty in obtaining their prices.

Cal Young America per lb.....19 1/2
Hand.....20
California Anchor.....21
Northern fresh.....18
Eastern.....17 1/2@18
Imported Swiss.....32
Tulare flats.....18 1/2
Domestic Swiss.....21@22

Eggs and Poultry.

Consumers are now paying 50 cents for strictly fresh ranch eggs and wholesale quotations are at 41. Eastern and storage remain the same as last week's quotations.

Eggs local candled.....41
Eggs case count.....39
Fresh Eastern.....35
Eastern storage.....25@27
Hens per lb.....14
Young roosters per lb.....14
Fryers.....14
Broilers per lb.....17
Old Roosters.....8
Turkeys.....17
Geese.....12
Ducks.....12
Squabs.....1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 lbs.....7 1/2@7 3/4
Prime steers.....4 1/2@4 3/4
Heifers.....3 1/2@4 1/4
Calves per lb.....5
Sheep, ewes, per head.....4.75@5.25
Lambs per head.....4.50
Wethers.....6.50

Potatoes.

Potatoes, although in lighter receipt, are heavy and the market is weak at the quotations. Many dealers have lowered their prices, but as yet the Exchange has given no notice to that effect.

Highlands.....1.50
Early Rose.....2.00
White.....1.90@2.00
Local Burbanks.....1.75@1.85
Salinas.....1.90@2.00
Sweet potatoes per lb.....1 1/4@2

Onions.

Onions manifest more interest than last week and if anything, quotations are slightly higher.

Silverskins per ctl.....2.00@2.25
Australian Browns.....2.00@2.25
Yellow Danvers.....2.00
Garlic.....2.00@2.25

Vegetables.

Beets per doz.....35@40
Bell peppers green lb.....2
Beans Limas per lb.....1.75@2
Beans green.....1
Cabbage sack.....50
Celery per doz.....40@75
Chili peppers green lb......02
Cucumbers per box.....10@20
Pickling.....50
Corn per box.....35
Cauliflower.....60@90
Carrots per doz.....30@40
Eggplant per lb.....2
Green onions doz bunches.....10@30
Lettuce per crate.....40@75
Pie Pumpkins.....1 1/2
Peas sugar per lb.....5@6
Okra per lb.....5@6
Rhubarb per box.....1.35@1.50
Radishes per doz.....15@20
Spinach per doz.....10@15
Summer squash crate.....15@25
Turnips doz bunches.....40
Tomatoes per box.....15@30
Water Cress per hundred.....35

Citrus Fruits.

Valencias.....2.25@4.50
Grapefruit seedless.....3.25
Grapefruit seedlings.....1.75@2.00
Lemons fancy.....3.75@4.50
Lemons choice.....2.00@2.50

Fresh Fruits.

Bellefleurs.....1.50@2.00
Baldwins.....1.75
Pippins 4-tier.....1.50
Gravenstein.....1.50

Alexandria.....1.00@1.50
Cooking.....50@1.00
Blackberries.....7@8
Cantaloupes crates.....1.50@2.00
Casaba per crate.....1.75@2.00
Figs black per lb.....5@7
Figs white.....5@7
Guavas.....4
Grapes Isabelas per box.....1.25
Black Hamburgs.....65@85
Rose Peru.....65
Malaga.....1.25
Muscats.....75@85
Tokay.....1.50@2.00
Cornichons.....1.25
Logans.....12@15
Pears.....1.25
Peaches per box.....1.25@1.50
Freh prunes.....65@75
Hungarian prunes.....1.10
Pomegranates per box.....1.10@1.25
Persimmons.....5@7
Quinces.....35@90
Raspberries.....15@18
Strawberries.....5@6
Watermelons per lb.....1

Dried Fruits.

Apricots.....19@23
Evap. apples fy per lb.....8 1/2@9
Figs loose.....8
Peaches.....12@14
Pears.....12 1/2@13
Nectarines.....11@12
Prunes.....3 1/2@5 1/2
Plums.....11 1/2@12 1/2

Beans, Dried

There is no change to speak of in the quotations of last week.

Limas per ctl.....4.50@5.75
Pink No. 1.....3.25@3.50
Lady Washington.....3.25@3.45
Small White.....3.25@3.40
Black eyes.....4.50@4.75
Garvanzas.....5.25@5.75
Lentils.....12@12 1/2

Honey

Extracted white.....6@7 1/4
Light Amber.....5@6
Comb water white 1-lb. fms.....12@16
Light Amber.....11@13

Nuts.

Almonds per lb.....18@20
Peanuts Virginia.....8 1/2@9
Peanuts California.....6@7 1/4
Walnuts No. 1 S S.....15
No. 2.....12

Hay.

Barley No. 1.....14.00@15.00
Barley No. 2.....12.00@13.00
Alfalfa northern per ton.....14.00@15.00
Alfalfa new local.....15.00@16.00
Plain oat No. 1 new.....12.00@15.00
Wheat No. 1.....15

Grain.

Wholesale selling price f. o. b., Los Angeles.

Wheat new per ctl.....1.80
Barley.....1.50
Corn Eastern sacked.....1.80
White oats.....1.90

Feed Stuff.

All grain has taken a sharp advance during the past week.

Selling price F. O. B. Los Angeles as follows:

Cracked corn.....1.85
Shorts.....1.45
Bran.....1.35
Oil cake meal.....2.50
Feed meal.....1.90
Rolled barley.....1.65

Ever notice how hard some fellows work doing a small chore? It tires them as much to chop up a pint of kindlings as it would other fellows to pitch ten acres of hay. They don't go at it right. Ten chances to one, such a fellow hasn't the right tools to do the job with any way. Like as not he pieces out a broken breaching with a necktie and has to put a chalk mark on his axe to show which is the cutting side. When a man of this sort shaves he uses a paint brush, a rusty razor, and laundry soap. When his face swells up like San Juan Hill will you pity him? No, but tell him to use William's Shaving Soap and be healthy, happy and comfortable.

"By sending a 2c stamp to the manufacturers, the J. B. Williams Co., Gastonbury, Conn., to pay postage, you can obtain a free sample."

The Southern California Horticultural Society will hold its autumn exhibition on November 7, 8 and 9, at Blanchard's Hall, Los Angeles. The chrysanthemum will be queen of the show, but carnations, dahlias and many others will be in evidence.

Hemet claims the output of \$40,000 worth of potatoes.

San Francisco Markets

SAN FRANCISCO, Oct. 15, 1907

Butter.

The keenness with which butter picked up has stimulated the market so that great advance is chronic since last issue. The quotation date is 40 cents per pound with price of higher.

California extras per lb.....
California firsts.....
California seconds.....
California thirds.....
Eastern extras.....
Storage Cal ex.....

Cheese.

California young America fy.....
California flats fy.....
Eastern fy.....
Oregon fancy.....

Eggs and Poultry.

At the present rate of increase, dozen eggs will soon buy a bushel of wheat. A 3-cent rise is noted in past week.

Fresh ranch eggs.....
Eggs firsts per doz.....
Eggs seconds per doz.....
Eggs thirds.....
Storage Cal extra.....
Eastern firsts.....
Eastern selected.....

No particular feature of the poultry market attracts attention. Market fairly clean and new arrivals do wait long for a purchaser.

Hens per doz.....4.50@
Hens large.....6.00@
Young roosters.....6.00@
Old roosters.....4.00@
Fryers per doz.....4.50@
Broilers per doz.....3.50@
Geese per pair.....1.75@
Ducks young.....4.00@
Turkeys per lb.....20@
Pigeons.....

Live Stock.

Steers No. 1.....8@
Do second quality.....7@
No. 1 cows and heifers.....6@
Hogs 80 to 200 lbs.....6@
Hogs 200 to 300 lbs.....4@
Calves per lb.....4@
Lambs, yearlings.....6@
Wethers, No. 1.....
Ewes, No. 1.....

Potatoes

River whites.....1.00@
Salinas.....1.40@
Sweets.....1.40@

Vegetables.

Green peas come principally from the Halfmoon Bay district and are, as a rule, late in arriving. String beans have steadily improved of late, but quotations have declined. Green corn was poor yesterday and the stock consisted of dried holdover which the trade refused to deal in. Tomatoes have brightened up and though consignments failed to show up, dealers held their carryover well in hand and were successful in obtaining 60 cents for quite a few lots. Summer squash was dull.

Cucumbers per box.....
Corn per sack.....1.50@
Chili peppers per box.....
Bell peppers per box.....
Egg plant per box.....
Green peas per lb.....
Squash per box.....
Tomatoes California.....
String beans.....
Wax beans.....
Garlic.....
Marrowfat squash per ton.....16.00@
Hubbard squash per ton.....10.00@

Onions.

Onions Br Australian per ctl.....
Yellow.....1.40@

Citrus Fruits.

Valencias.....3.00@
Grapefruit seedless.....2.50@
Lemons.....4.00@
Limes.....5.00@

Fresh Fruits.

Grapes continue to drag with poor quality. Tokays sell most anywhere from 50 cents to 75 cents. Blacks are likewise weak and large boxes may be had at a 50 to 85-cent range. The apple market is glutted and demoralized. Dealers are glad to dispose of supplies at any price from 40 cents a box up to \$1.25 for the best varieties. Nutmegs were the only heavy receipt yesterday and their tone is decidedly weak. Prices now range as low as 25 cents a box.

Apples Gravenstein.....1.25@1.50
Apples small stock.....40@
Crab apples.....85@1.00
Blackberries per chest.....3.50@6.00
Figs one layer.....40@
Melons per crate.....40@
Figs two layers.....85@1.00
Grapes per crate.....75@1.00
Huckleberries.....70@
Pears cooking.....60@1.00
Pomegranates per box.....75@1.00
Plums per box.....50@1.00
Peaches per box.....1.00@1.50
Nectarines.....75@1.00

nces per box..	75@1.00
berries per chest..	7.00@10.00
awberries per chest..	6.00@10.00
termelons per doz..	1.75-2.50

Dried Fruits.

les (evap.)	10@10½
coots per lb new..	13@22
s white..	3½@5
tarines..	12½@15
ms pitted..	10@12
nes 4 sizes..	4@5½
ches..	10@13
rs..	5½@11
nes 4 size bag basis	4½@5

Beans, Dried.

as	5.30@5.40
	3.25@3.35
all white..	3.25@3.50
ge white..	3.00@3.10
y Washington..	3.25@3.45
ck eyes..	4.00@4.25
kidneys..	3.40@3.50
o..	3.15@3.25

Hops.

is new future delivery per lb 7½@10	
is old fancy..	4@6

Nuts.

onds new..	16½@17½
nuts California..	6½@7½
nuts	14@17

Honey

ur white comb..	16@17
ber	12@15
racted..	7½
swax No 1 per lb	26@28

Hay.

alfa local..	12.00@13.50
ne oat..	16.00@17.00
d oat..	10.00@14.00
eat No 1 new..	20.00@21.00

Grain.

eat No 1..	1.62½@1.67½
ley No 1..	1.45@1.47½
n small yellow..	1.85@1.70
n large yellow..	1.65@1.70
s white..	1.60@1.65
s red..	1.75@1.90

Feed Stuff.

n per ton..	21.00@23.00
aw per bale..	75@85
ed cornmeal per ton..	33.50@35.50
ed corn per ton..	34.00@36.00
ed barley per ton..	30.00@31.50
ake meal per ton..	38.50@40.00
eanut cake, per ton	25.00@26.00
idings..	28.50@30.50

Citrus Market

LOS ANGELES, Oct., 16, 1907.

Shipments of citrus fruits to this season, 27,372 of which 3393 lemons. To same date last season, 25,786 of which 3683 were lemons.

NEW YORK, Oct. 15.—The market very strong and the weather is favorable. Four cars Valencias sold.

Valencias—	Avg.
Water ch ACG Ft Ex	\$5.40
Mission ch Chapmans' Fulln..	6.00
Rafael..	5.30
Pasqual..	4.00
flower fy Richardson Fulln..	7.25
im ch Richardson Fulln..	6.00
no..	5.70
neyton..	4.15
no..	2.30

LOUIS, Mo., Oct. 15.—The market is firm on lemons and Valencias the weather is cool. One car sold on track.

Valencias—	Avg.
ion fy ST Ft Ex Santa Bar..	2.70
ival ch ST Ft Ex Santa Bar..	2.65
EW YORK, Oct. 14.—The market is steady and higher in spots and the weather is favorable. Three cars Valencias and one car of grapefruit sold.	
Valencias	Avg.
Mission fy Chapmans' Fulln..	\$8.10
Mission ch Chapmans' Fulln..	6.50
ten Eagle st Chapmans' Fulln	5.50
ter fy S S Ft Ex..	6.35
loria xfy A H Ft Ex..	5.95

LOS ANGELES, Oct. 14.—The market is very strong and the weather is favorable. One car sold and one on track.

Valencias—	Avg.
fy ACG Ft Ex Glendora..	6.00
ter ch ACG Ft Ex Glendora..	5.65
ter st ACG Ft Ex Glendora..	5.15
TTSBURG, Oct. 14.—The market is very strong and the weather is cool and cloudy. One car sold.	

PHILADELPHIA, Oct. 14.—The market is very strong and the weather is favorable. One car sold and no arrivals.

Valencias—	Avg.
Hest Pack xch Tustin Pack Co	5.25
Liky st Tustin Pack Co..	5.05

odi shipped a car of "carnival grapes" in expectation that it would pay the bills left from the recent carnival. This is to be made good and fine, too, by the satisfactory sales in New York. The entire cost of the carnival was about \$9000.

MONEY REFUNDED.

To secure an almost perfect insurance for a valuable cow for \$5 is cheap, indeed. But when a whole herd may be protected from milk fever for that sum it is still cheaper. Milk fever is one of the most deadly diseases of the more valuable cows, or was up to a very few years since, when the medicated air treatment was accepted with open arms by the dairymen of the country. In tests which were made out of 914 cases of milk fever, 900 cases completely recovered. Six hours after the treatment is administered the cow will show great signs of improvement, and in twelve hours she will have recovered, and the milk will completely return in a few days.

At first, crude instruments, bicycle pumps, or any old thing, was pressed into service. But now such perfect little appliances are supplied for a nominal sum that it is almost criminal to be without them.

The Robinson Chemical Works of 249 Eighth street, San Francisco, supplies a complete outfit for \$5, which they say "will positively cure or money refunded."

EVERY FARMER CAN HAVE HIS OWN TELEPHONE.

Nowadays, it is possible for every farmer to have as many conveniences and comforts as his city brother. In fact, the up-to-date farmer demands that he have the best of everything. He is on the lookout for any new device that will save him time and labor and increase the efficiency of his farm.

Thus it is that the telephone has become as much of a necessity on the farm as it is in the city. It enables the farmer to keep in close touch with his markets, sell his hogs, cattle, stock or other products; hire his help, bring the latest news from the neighborhood, the nearest town, the State, to say nothing of its social features. The telephone on the farm has come to stay and the Telephone & Electric Equipment Co., Seattle, San Francisco, Los Angeles, are showing the farmers how they can put in their own tele-

phones at reasonable cost. Their advertisement in this issue is certainly worth reading. They send three books on Farmers' Phones, free of charge. The booklet on "How the Telephone Helps the Farmer" is especially interesting, and we urge all our readers to answer their advertisement. Ask for the 25th edition.

A FARM ECONOMY.

The use of a "food tonic" as a preventive of indigestion and consequent check on growth and development, is becoming a settled practice among owners and feeders of live stock.

It is a well-established principle that bitter tonics strengthen digestion, that iron builds rich blood in abundance and that nitrates remove from the system the clogging poisons that are not less deadly because their action is slow. It sometimes happens in feeding cattle or hogs that the gain of months is almost completely lost by a mistaken idea of economy which prevented a slight outlay for the "food tonic."

This is a sample of the same old policy which "saves at the spigot to waste at the bung."

Continuous and rapid growth or fattening is impossible without daily doses of this beneficial tonic preparation.

Keep that in mind and remember that back of the idea is the indorsement of such men as Professors Winslow, Quitman and Finley Dun, noted the country over as experts in all that relates to veterinary medical practice.

It has been found that all farm animals are equally benefited by the use of the "food tonic." Horses are in better condition for work or driving, and where the object is to sell they invariably show to better advantage. To hasten a bunch of hogs when high prices are in prospect, there is nothing better, and the actual profit derived from its use may be well illustrated by a simple computation.

Suppose a bunch of four 125-lb. hogs be taken as an experiment and that a maximum dose of two tablespoonfuls be given twice a day. Now, the actual weight of tonic eaten by the four hogs would be one-sixth of a pound and would cost five-sixths of one cent

or a fraction over six cents per month, per hog. Then if the fact be taken into consideration that a thrifty hog may increase a hundredweight in a few weeks, we see at once that the "food tonic" would soon pay for itself and a large margin of profit be realized.

This is the theory and practice of the "tonic idea" and there is abundant evidence to sustain it. Men who are using the "food tonic" regularly, find that there is no small investment made that gives so handsome a return.

The larger business of cattle raising and feeding is also equally broadened and extended by this commonly practiced principle of giving a digestive tonic. By its use a bunch of steers is carried safely through the months when heavy feeding is the rule, and brought to a satisfactory market condition without a moment's check in the process of development.

Sheep and lambs benefit as much from a consistent use of "food tonic" as other stock, tests by a State experiment station proving in one instance a profit of 235 per cent over the cost, from which it would seem that no farm economy is more practical or profitable than the "food tonic" idea.

TWO OLD—ONE NEW.

Two firms which have long bought and sold hay in Los Angeles are the Nichols-Hammell Co. and the Loomis Bros. These two firms are now become the Nichols-Hammell-Loomis Co. and are handling hay in a large way. In fact, the firm says in their circular:

We feel a degree of pardonable pride value of our business—during the last twelve months the Nicholls-Hammell Co. alone marketed 25,000 tons of hay. We are now the largest hay firm in Southern California; we trust your past relations with the men identified with our new organization have convinced you that you can here supply your needs in hay to the best advantage.

The hay producer should get in touch with them.

Glenn county had a serious stubble fire near Willows last week.

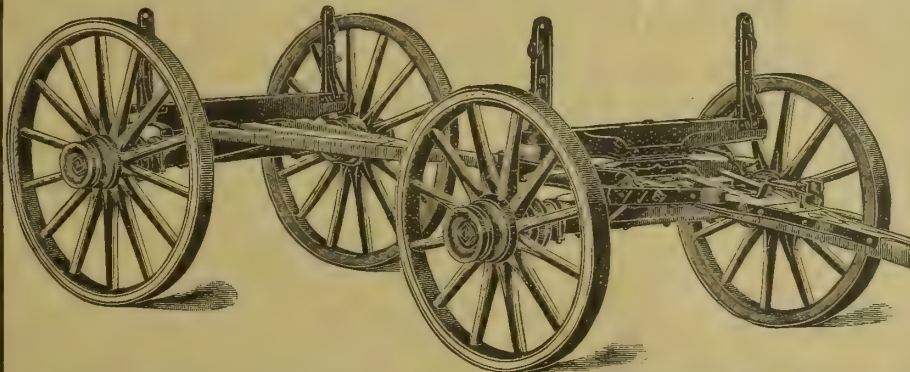
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Los Angeles, Cal.



Does this stream of water look good to you?
It certainly does to the two men standing beside it. They are the President and Treasurer of the company to whom the plant belongs. It is raising 40 inches of water from 250 feet below where they are standing. This water goes into a reservoir 18 feet above the pump through an 8-inch pipe-line about one-eighth mile long and you cannot see a pulsation in the discharge if you try. It has been doing this for over a year. There have been no repairs, not even new leathers, and it runs better, if such were possible, today than it did a year ago.
How many pump users can say this?
It shows conclusively that it pays to install good machinery.
We have done this for these people and we can do it for you if you give us a chance. Our catalog tells all about it.
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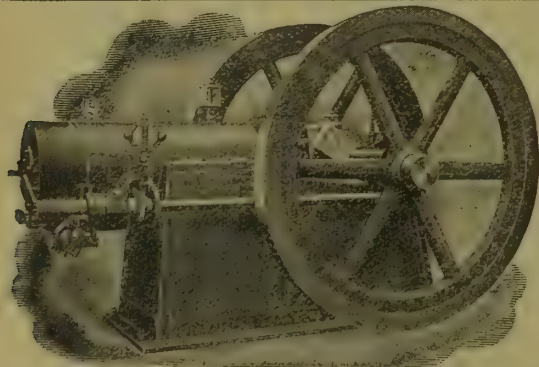
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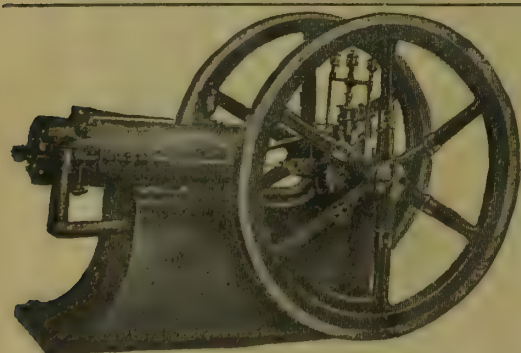
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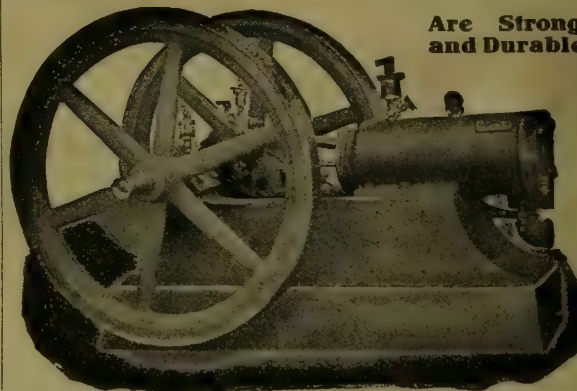
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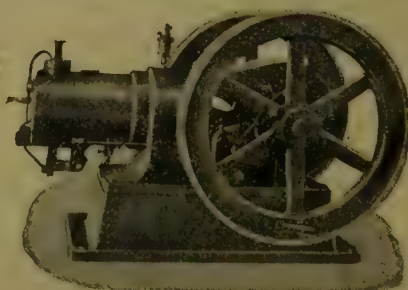
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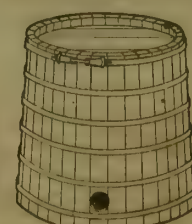
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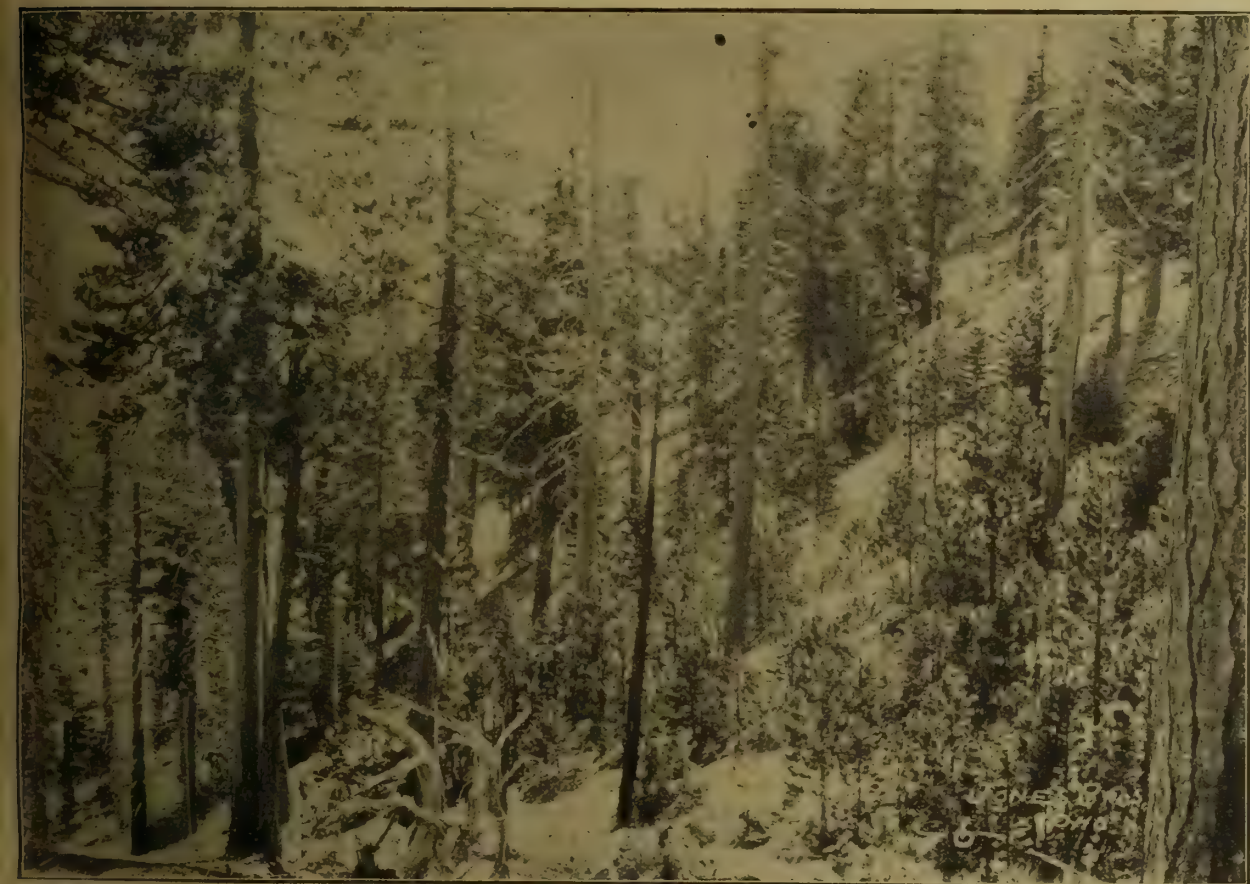
California Cultivator

Los Angeles

October 24, 1907

San Francisco

Forests the Source of Irrigation Waters



DURING three months (January, February and March, 1899,) observations on the forested basins, about three-eighths of the precipitation appeared in the run-off; while in the non-forested area, nineteen-twentieths appeared in the run-off. The forested area experienced a well sustained stream flow three months after the close of the rainy season.—Toumey, in report of Tri-counties Reforestation Committee.

THE non-forested area, which during December, experienced a run-off of forty per cent of the rainfall, and which during the three months following had a run-off of ninety-five per cent of the precipitation, experienced a run-off in April (per square mile) of less than one-third of that from the forested catchment areas, and in June the flow from the non-forested area had ceased altogether.—Toumey, in report of Tri-Counties Reforestation Committee.

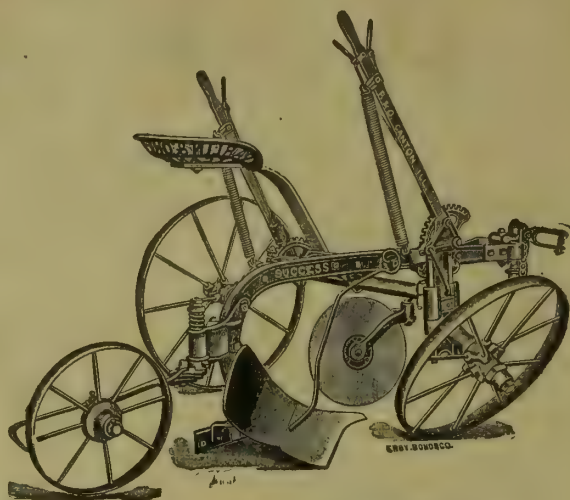


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A
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The Best and Cheapest Plow is the Success.
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Because it does the same work as plows that cost a great deal more.
It costs less than higher priced plows because it is made of fewer parts.
On account of its having fewer parts it won't get out of order.

Plows get out of order because they are complicated. The Success isn't complicated—it's very simple.

A plow that won't get out of order is what you want, isn't it? You would call such a plow **strong and durable**.

That's why the Success Plow is named "**SUCCESS**."

Being less expensive than others, doing first-class work, possessing the essential qualities of strength and durability, the Success deserves all we claim for it. No use to ask now why it is the cheapest.

The best is always the cheapest.

Equipped with the best bottoms made; adjustable front axle; dust-proof removable wheel boxes; adjustable rear wheel; easily set for any depth; works equally well with large or small horses; has light draft and is easily operated—a perfect plow.

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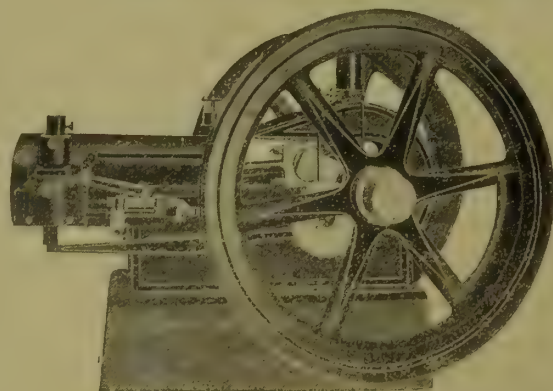
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November 13th, 1907 Newman, Cal. November 13th, 1907

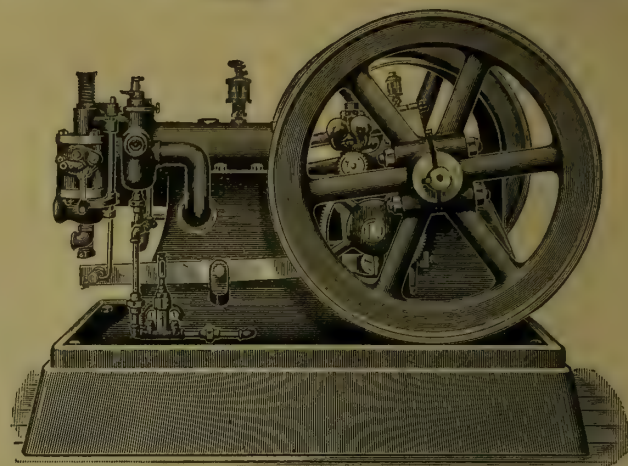
For our Second Annual Sale we have listed 50 Head of Cows and Heifers, 25 Head of Yearling Bulls. Your opportunity to get foundation females bred to Imported Straight Archer, 209098, the sire of International Winners. Sale Will Be Held in New Live Stock Sales Pavilion, Newman, Cal. No Postponement on Account of Weather. Accommodations at Russ House. For catalogue address

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Easy to guide; strong, compact and easy adaptable to every condition demanded. It needs but one man and two horses to operate it. Notice the "no skid" rudders on the wheels. They are raised in the picture; when lowered they guide the machine straight ahead. The moldboard is 4 feet long. Has adjustable shoes shown at ends of moldboard to gauge depth to which moldboard should cut. It's a very desirable machine for road-building in city or village. It makes good roads and keeps them so. Although made of steel and malleable iron, still it weighs only 1000 pounds. The

20th Century Grader

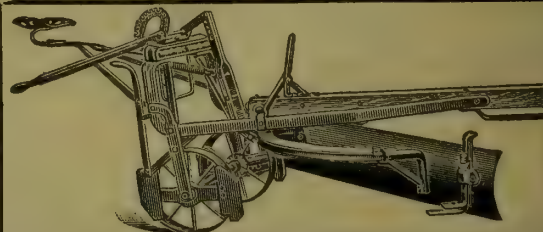
saves time of three men and two extra horses. It is easy on the horses. Has blade in front of wheels. Moldboard reversible. Machine turns in 6 ft. circle. Built for road-grading, ditching, Land Leveling, Foundation-digging.

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The price is lower than most such machines. We send on free trial. Write us for our handsome booklet, "Delightful Roads." It's free and tell you all about the 20th Century

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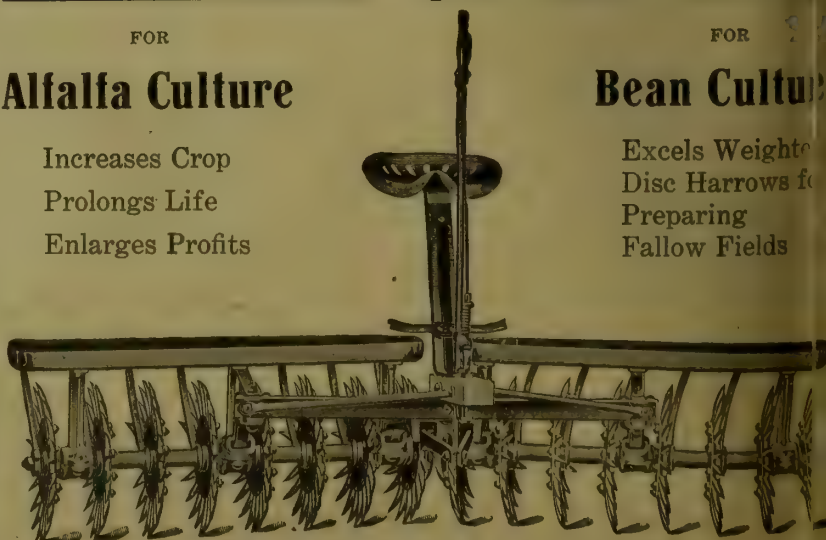
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California Cultivator

Vol. XXIX—No 16

Los Angeles, California, Thursday, October 24, 1907

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Irrigated Lands Demand Reforestation

The Organization of the Tri-Counties Reforestation Committee Urging the Great Work of Replanting Our Watersheds

THREE counties in the southern part of the State have combined in the organization of a committee, the duty of which is to look after the interests of reforesting the mountains which supply those particular counties with the life-giving water. These counties are San Bernardino, Riverside and Orange, each county having twelve members on the committee.

The officers of the committee are Francis Cuttle, president and L. A. Finch, secretary.

To be more particular as to the objects of the organization, we quote from its literature:

The object of the organization is to diminish the winter and spring run-off and increase the summer flow of water from the San Bernardino watershed.

First.—By securing to the Federal Government the ownership of all lands within the outside boundaries of the San Bernardino Forest Reserve.

Second.—By preventing the further destruction of timber and brush within the said reserve.

Third.—By reforesting all denuded areas.

Fourth.—By affording, where practicable, all lands not now covered with sufficient timber to preserve to the best advantage the precipitation falling on the said Reserve.

The committee has held several meetings and is moving in the matter of giving much information as to the necessity of early action in securing immunity from fires, and of urging upon the Department at Washington the importance of reforestation, and of afforesting where possible.

The last meeting was held at Redlands a few weeks since, at which time President Cuttle reported regarding the work of the committee and he said:

President Cuttle Reports.

In the address made before the National Irrigation Congress, I stated that the people of San Bernardino, Riverside and Orange counties have found, up to this time, that they were unable to settle their differences as to the ownership of water among themselves and recourse had often been had to the courts, and that litigation would probably be had in the future, as it had been in the past, over the ownership and division of the water from the south slope of the San Bernardino mountains, but that while these people had agreed to disagree on these subjects, they were broad-minded enough to unite in an organization where all could work harmoniously for the preservation of the timber at the source of the water supply and the conservation of the precipitation which would, undoubtedly, be of great benefit to all of the three counties. Litigation has certainly broken out again in real earnest between the different owners and claimants of the waters from the south slope of the San Bernardino mountains, and I desire here to urge on the members of this committee the necessity of laying aside all personal prejudice that may arise over the litigation that has recently been instituted between the counties of Orange and Riverside, and Riverside and San Bernardino, when it comes to working through this committee for the protection of all. Let us fight, if we must, in good earnest over the division of the water we now have, but at the same time, let us continue to work harmoniously together to increase the summer flow of water in order that all may be benefited, and in the hope

that eventually there will be sufficient water so that litigation will be unnecessary.

Trees Doing Well.

I recently made a short trip into the San Bernardino mountains to examine personally the condition of the trees that were planted during the early part of the year, and was delighted to find in the batch of trees that I visited, about midway between the Arrowhead hotel and the top of the mountain, that of the fifty-nine trees I examined, there were fifty-two living and but seven dead. The living trees were not only alive, but were vigorous and green, and some had made good growth. This was just before the recent rainfall. I do not mean to say that this percentage can be maintained in all plantings, but the location I visited was certainly as unfavorable as could be selected. The ground is very dry, sterile and stony in composition, on the south slope of the mountains where no moisture excepting the rainfall can possibly reach the trees, and yet they are all doing remarkably well.

Some Facts.

At the same time Mr. Geo. Robertson, of Redlands, presented a statistical report from which we quote:

Without a wise management of our San Bernardino Forest Reserve, no agricultural industry depending on irrigation in this valley is a safe investment; but with an intelligent forest policy, satisfactorily carried out, these irrigated lands are bound to be among the most productive and valuable on the face of the earth.

The value of the San Bernardino Forest Reserve does not lie so much in its merchantable timber, its minerals or game, but rather in its influence on climate, its source of irrigation water and in its hydraulic power for electric plants. Any effort which aims to protect or add to these values should merit the attention of all the people of the three counties represented here today.

The reserve forms an important part of the 150 or more forest reserves of the United States, and contains more than 730,000 acres; 310,000 acres are timbered, 370,000 brush covered, 40,000 desert and naked rocks, 15,000 meadow land, 1200 cultivated tracts and 800 acres occupied by streams.

Some years ago a movement began in this city to persuade the Federal Government to purchase all the private lands within the outside boundaries of the San Bernardino Forest Reserve. We are pleased that this is now a primary plank in the Tri-Counties Committee's platform.

The careless skinning the land of timber for lumber is nearing an end in Southern California.

Again the destructive fires which have destroyed thousands of acres of most valuable forest cover can nearly all be traced to fires originating on the private lands either in or contiguous to the forest reserves.

Perseverance of Saints.

Only the perseverance of the saints will protect our inflammable and gummy chaparral from destruction by fire, if we neglect fire protection.

We are now able to lay before you the amount of acreage of patented lands in the reserves, the names of the corporations or individual owners; their several holdings; the precise location of each parcel or land as to township and section.

Six hundred and forty acres have been reserved

in township one for Indian purposes. We doubt the wisdom of locating Indians on lands in the reserve where forest fires may escape and do immense damage to the forest cover of the watershed. Ought we to establish a continuous menace to the valuable valley interests? Your committee believes it would be a wise policy to have these 640 acres exchanged for land outside the reserve. The government should take possession of these 640 acres.

Eleven thousand, two hundred eighty-nine and ninety-six-one hundredths acres are owned by private parties. These lands are widely distributed in townships one and two.

Fifteen thousand and sixty-three and fifty-four-one hundredths acres are owned by the Southern Pacific Railroad company. The lands of this corporation are about equally distributed between townships one and two. Also 6400 acres in the reserve belong to the State.

This means a total of 32,751.50 acres is now owned by private parties, corporations or State. Careful statemanship will be required to unite all these interests, located now within the reserve, into line with the best interests of the people in these three counties, who depend for their very existence on the irrigation water supplied by the San Bernardino watershed. As our population grows, and it is bound to increase year by year, this problem will grow more pressing. There is one and only one problem—work the forestry problem first and work it right.

The extent and economic value of the irrigated lands in the San Bernardino valley depending on the watershed cannot be omitted.

We are indebted to H. B. Wilson, county assessor, and secretaries of boards of trade for Highland, Colton, Redlands and others for valuable information.

From the county assessor we learn that the total acreage of lands irrigated by water from the San Bernardino watershed is 102,051 acres; that the assessed value of these lands is \$3,809,350, and the market value is \$22,856,100. The value of the crops on this land last year amounted to over \$5,000,000.

Since the irrigated land industries for San Bernardino county alone amounts to this vast sum, what must be the economic value of the interests of our three counties depending on this same watershed? Every drop of water saved by wise forestry is gold to the average orange growers.

Where there are no obstacles, as on barren ground, the moving water, by eroding channels, forms small rivulets, and these larger and larger ones, which flow with constantly increasing velocity. As a result, the water passes rapidly over the surface and but little gets into the soil. When the soil is covered with obstructions, such as are offered by a forest with its accumulation of litter and vegetable growth, the rain which is not immediately absorbed is checked in its flow over the surface. The water being held back, is finally taken up by the soil and thus prevented from forming small rivulets through erosive action. The forest, in extending the time during which the rain reaches the soil, in its effect upon local topography, and in supplying a larger and better absorbing medium, must necessarily have a profound influence in increasing the seepage run-off, and in proportionately decreasing the surface flow.—Toumey.

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BLACK SCALE FUMIGATION.

NOW that the season for fumigation is well under way, it seems opportune to cite a few mistakes which have already become evident. During the past summer the black scale has been more irregular in its hatching than for several seasons past. Though many of the young were hatched before the hot weather in July and an early year was anticipated, the reverse condition has actually been found to exist. During this hot weather much of the earlier brood was killed and a uniform hatch afterward seemed to be assured, but the young have since been very slow in coming out, so that in the older, denser citrus trees it was really the first of October before fumigation with ordinary black scale dosage could be recommended with any assurance of a complete kill.

In some districts fumigation for this pest began early in August and, as might have been expected, very poor results have ensued. This is evidently due to negligence or ignorance on the part of the inspectors or fumigators, or both. The question which naturally arises is: How should this be governed, and who should be the judge? Evidently the fault lies with both the inspectors and fumigators. Because early fumigation was successful last year, there is no reason to suppose that it will be so this year, and the inspector or fumigator who advises fumigation before the scale is in a condition to be killed should be held responsible by the orchardists and should be so amenable to the laws that he will be compelled to make reparation, unless he stipulates definitely that a complete kill cannot be affected, and the grower then sees fit to take the chances. The whole scheme of control by fumigation is based upon the invulnerability of the egg stage, and it is a well-known fact that even a red scale dose will not be effective against the egg of black scale. A good example of this came before my attention some weeks ago when I visited some trees which had been treated early in September with what is known as "a heavy black scale dose." Though a large per cent of the red scales, which were abundant on the trees, were killed many young of the black scale had emerged from the old shells since the place was treated, and many eggs were still unhatched.

An inspector informed me some time ago that the eggs and young of black scale which still remained under the shell could easily be killed by fumigation after the first young had emerged and thus "loosened up" the remains of the parent's scale. This inspector has been in the business for a number of years and it is evident that this lack of common knowledge is merely due to a lack of careful and intelligent observation. Such an inspector should soon be recognized by his constituents and superiors in office as totally unfit for his duties, and his removal would be a blessing to the community in which he operates.

Much of this early fumigation is done because of the oft repeated fact that if everyone who is to have it done this season were to wait until the scale is ready, all would not get their work done before the young scales have formed their protective

covering and thus become practically immune to control. This means. This is partially but appears to be, indeed, a poor excuse, for who shall be victimized order to adjust this difficulty. Nearly all of the largest growers have purchased their own outfit that their work may be done. It is exactly due, and a combination of small growers could evidently cure the same ends by thus equipping themselves, or by together curing from some contractor an agreed agreement for fumigation in a certain period. It might be said, too, that the proposition of terminating the season in groves of same section is adjusting this matter so that there are in many a sufficient fumigators to cover territory necessary each year, further, that many of our best fumigators make preliminary inspection and refuse to do the work except the proper time or else come to understanding with the owner concerning the results to be expected.

While much in regard to fumigation must await the investigation now under way here by the government, as the result of an urgent request from our county commissioners, these cardinal and basic facts necessary for good work should be the stock in trade of all inspectors and fumigators, else the orange and lemon growers must be injured rather than aided by the so-called public servants, as a result of the desire to live up to the recommendations of Mr. Powell in which states that clean groves are a primary necessity for fruit of good shipping qualities.—B. J. Jones.

CAREFUL ORANGE HANDLING PAYS.

In an article in the Rivers Press, J. H. Reed appeals for more closely following the recommendations of G. Harold Powell and show the financial advantage to all producers secured by the additional care. From the article we quote:

For the Small Grower.

Naturally, the greatest benefit so far has come to a comparatively few large growers packing their own fruit—progressive men, always on the alert to secure and utilize improved methods.

The question now is, can the results from these investigations, utilized by the average small grower and others not in the position to pack their own product? Will they pay to make the effort?

After the large growers, handling their own fruit, those connected with co-operative associations, probably are in the next best position, to secure the intelligent handling required.

The associations connected with the fruit exchange pack say 4,000 boxes per annum. It has been shown that those who have efficiently carried out the methods indicated by Mr. Powell's experiments, have secured thereby a net gain of from 50 cents to \$1.50 per box. Now suppose the average savings on the output of the exchange association could be made 25 cents per box—of half of the minimum amount saved by private concerns—an aggregate of one million dollars in a season, and to the individual grower of a thousand and packed boxes a saving of \$250.



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certainly would be worth while.
Bits a Box Saved.
 After following the investigations carefully from the first as well as the publication of their results in a practical way, by houses giving them enough test, I am satisfied that more than \$500 may be saved on 1000 boxes, packed for the grower by any association to secure the necessary cooperation of its patrons, or \$54,000 300-car pack; certainly a nice sum to be distributed to patrons for the little trouble and expense of carrying out the improved methods.

Now this is to be done is not yet easily stated. In fact, probably considerable experimenting will be required before it can be known with assurance. Different methods will have to be tested before the successful is found. But entering orange growers have overcome greater difficulties, and they will overcome this.

Expert Supervision.

Without the first and most important step required is the control of the fruit to be packed by a reliable concern. Since much of the trouble resulting in decay sooner or later, before the fruit reaches the packing houses, may be of such character as not to be detected there at the packing house—the only way it can be controlled is by careful expert supervision from the time it leaves the tree. This problem of pickers, handling all the fruit could best be done by a trained crew, under capable supervision.

Where this plan is found seemingly impracticable (I say seemingly, because I believe the objections against it may be overcome by the advantage of all concerned) the only alternative will be where picking for the various patrons and the associations is done strictly under the supervision of an expert to employ of the association.

This field supervision should also be in the manner of handling the fruit in the field and its conveyance to the packing house, under the direct regulations of the management of the association. Under either the cost of picking will necessarily be increased over that of the other methods, but this increase under strictest supervision would be negligible compared with the gain.

When the fruit delivered in unimpaired condition, not only rigid inspection of careful handling at every step must be required by the management, but methods and appliances found objectionable by Mr. Will's investigations must be discarded. The necessity of careful handling in the packing house to secure desired results is as absolute as in the orchard.

Let Them Leave.

It is insisted by some that patrons of co-operative associations will not submit to the rigid requirements in the field necessary to secure uniform handling. This may be the case in some instances, but where the importance of the new movement is fairly well understood, I believe the exceptions will be few, and where one would leave the association because of the restrictions, I believe, as a rule, two or more would ask admission because of the same.

It will take time to have the im-

portance of this advanced step in our industry generally and fully understood, but I am satisfied that in most orange growing sections, it is already sufficiently well appreciated to justify an effort for the radical changes of methods called for. I believe that co-operative associations at least should at once formulate plans for the coming season, where not already done, to secure the careful handling of their fruit that has already proved so profitable to firms and individuals packing their own fruit.

CROSS INOCULATION OF LEGUMES.

The question about the possibility of using one form of bacteria for the promiscuous inoculation of legumes has not been definitely settled as yet, still there has been some interesting work along that line. It was demonstrated many years ago that there were certain groups of legumes that would readily become inoculated by one pure culture. The idea was advanced that when a change of variety of legumes was made in a soil, the bacteria went through some sort of evolution that permitted them to perform their functions in the new host. This was simply theory with no proof that such was the case.

Recent experiments carried on in London showed that if such an evolution does take place, it must be indeed be very rapid and entirely within the influence of each separate (supposed) variety of bacteria. It is stated that tubercles obtained direct from wattles (acacias) in Western Australia, were sterilized and cut under sterilized conditions and pure cultures made. After several days incubation, sterilized sweet pea and vetch seeds were inoculated with the culture and grown in sterilized sand. Uninoculated seeds were grown in sterilized sand and no nodules were produced on the roots. The peas and vetch inoculated with the pure acacia culture all produced nodules.

ORANGES BY THE SHIPLOAD.

Whole cargoes of oranges from the orchards of Southern California will be shipped direct to the markets of Europe the coming winter if the plans which an English syndicate is making are successful. A representative of a London syndicate which sees profit in the sale of California oranges in Europe has been in the southern part of the State for several weeks investigating the supply and the means employed in shipping fruit. He has now gone to Galveston to make arrangements to engage wharf facilities for the first steamer the syndicate will send to that port. The plan is to load full cargoes of oranges on trains in Los Angeles, ship them direct to Galveston and thence to the markets of Europe on a steamer chartered for that purpose. —Chicago Packer.

AND THEN HE WENT.

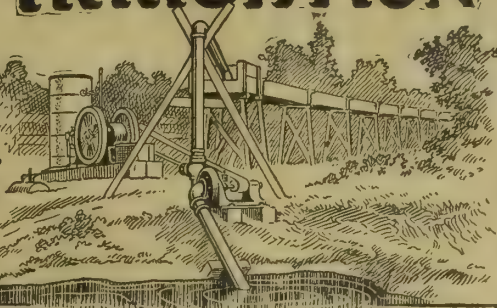
Little Brother—"Do you know what I think?"
 Sister—"No; what is it?"
 "I think if I were not in the room Mr. Jones would kiss you."
 "You impudent boy! Leave the room instantly!"

An average of \$6.80 for a car of Santa Ana oranges was received by the Santiago Orange Growers' Association.

Riverside oranges are showing many splits.

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The use of hundreds of I. H. C. engines by practical irrigators is evidence of how well these requirements have been met, and how well the I. H. C. engines are adapted for this special work.

The engines are not only powerful, but they have the two other absolutely necessary requirements:

They do your pumping economically.

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Irrigators of large tracts of land must have an engine that is economical in fuel consumption. The I. H. C. engines have reduced fuel consumption to a very low minimum.

It isn't necessary to keep an extra man to attend to the engine. Only an occasional return to the engine is necessary, or a small boy can give it all the attention required.

If you have a lake or stream below your land, or ditch, just look into the matter and see how well an I. H. C. engine will solve your irrigating problem.

Vertical engines made in 2 and 3-Horse Power.

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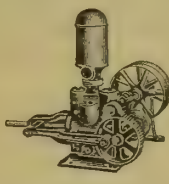
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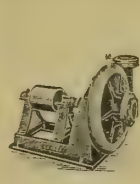
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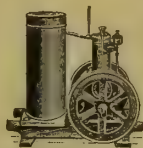
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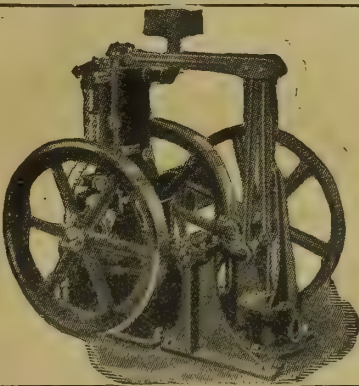


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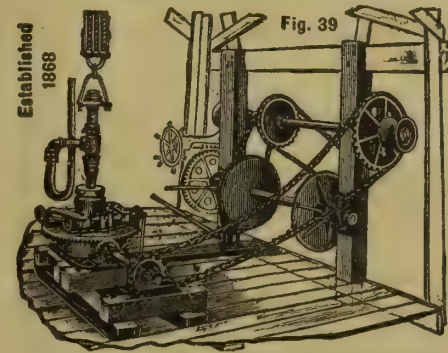
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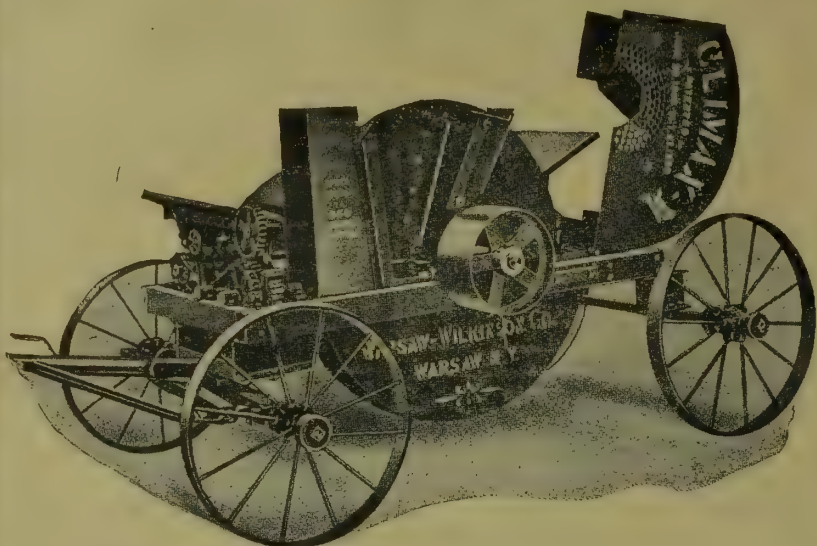
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In the Climax Pneumatic Ensilage Cutter both the cutting and elevating are done by a large wheel which carries the knives on one side and the elevating fans on the other. Both the cutting and elevating, therefore, are done at one operation, in a much simpler manner and with an expenditure of much less power than in those machines where the elevating device is a fan attachment added to the cutter.

The convenience of having an ensilage cutter of large capacity on its own road wheels is obvious. We confidently assert that no other ensilage cutter is so easy to work and easy to move and set up as ours, or has such large capacity for power used. They are unequalled in simplicity, strength and durability, convenience and safety in operation, and the excellent quality and uniformity of the silage.

We received at the

St. Louis Fair the Only Award

for ensilage cutters of the side-wheel type, 15 to 25 tons of green corn per hour, where cut in one-half-inch lengths, other feed in proportion. For further particulars, call on or address

O. J. Weber Co. 555-557 South Los Angeles Street
Los Angeles, California

Live Stock and Dairy

SMALL CHEESES.

THERE are a number of desirable kinds of small cheeses made for immediate consumption, that do not require curing. We used to find a ready market in our little town for all that we could make. Where cows are kept as a side issue, they are not usually bred to freshen when milk and butter are selling at the highest price. Whenever the returns from the creamery falls below the line of profit, then a woman can make these little cheeses and secure some needed pin money. The market is never filled with an over-supply of pot or cream cheese. How easy it is to secure a reputation for this kind of cheese, is shown by an offer from a San Francisco retail grocery firm to take for the next six months all the cream cheese we would make for them. We have not made them for sale for nine years, yet some one remembered them as desirable.

Cream Cheese.

This is the recipe that came to me from my aunt's home in France. The peasants make it for the Paris market. The consumption reaches about two hundred and fifty thousand pounds a week. When eaten French fashion with a loaf of crusty bread hot from the oven, with a little lettuce and good coffee, it makes a lunch fit for the gods, let alone a blasé club man.

To one and a quarter gallons of twenty per cent cream, this is about the usual commercial cream of the market, add eight gallons of new milk. Reduce the temperature to between 55 and 60 degrees; add a little more than half the amount of rennet the chesse tablet calls for, in the making of ordinary cheese.

The Curds.

Let the milk stand twenty-four hours until well clabbered. Then take the curds up on four pieces of cheese cloth, tying them up loosely like a bag of pudding. Prepare some cans, baking powder will answer nicely, by melting or cutting off the bottom so as to make an open cylinder. Cut out a few little, round pieces for followers. Put some doubled flour sacks on a board and stand on it one of the bottomless cans. Put in a little bag of the curds, then a wooden follower, then more curds and at the top allow curd bags to project half an inch to make it a good full can. Now on this lay a doubled flour sack and on that a level board and put on a couple of flat irons for weights.

Working.

After twenty-four hours spread the curds in a kneading pan or butter bowl. Work and knead in salt and sweet cream. Pat into a long roll and stand to one side until it grows firm. If for home use make it into small pats about a dozen to the pound; this is about the size of codfish balls. Put these into pieces of cheese cloth and wrap them in prepared waxed butter paper. These cheeses must be neatly put up, if it is desired to market them, for we rightly judge the maker by the style of his goods. A clean person will be neater than a dirty one every time. Our little dairy actions rise up to judge us just as surely as

the crisis in life show our character.

Moulds.

Small, round moulds made of tin are desirable to shape cheeses. I found it well, however, to buy in quantity the small, pasteboard forms, that come for individual charlotte russes. A strip of parafined paper is put first. These moulds are sold for the cheese and protect it from getting out of shape. A second piece of butter parchment is wrapped around the outside of it and a circular label with the maker's name and date is made on it. The circle of fancy paper is pasted on each. The handling by the grocery cannot contaminate a cheese so long as it is sealed in this way. These cheeses will remain good if kept in a cool place for a couple of weeks. I say good, but I know people who deliberately put them away and eat them when they mould and are at least, two months older than when they are new.

Another French Recipe.

This little cheese has not proved as popular as the first one given here. It is not as rich, yet is excellent as a table cheese. Put the morning's milk into a granite pan, adding the rennet according to printed directions. Stir it well and raise the heat to seventy degrees. Cover it and wrap it up to hold the heat at seventy for three hours. Then stand the pan in a cool place until the next morning. Cover with a colander with a piece of fresh scalded cheese cloth. Take up the curd with a perforated ladle or with the ordinary hand skimmer. Lay the curd on the cloth, when it is all out of the pan, tie the cloth up into a bag and hang over the pan to drain for an hour. Then put the curd in the butter bowl and add a tablespoonful of heavy cream for every two cups of the curds; season with white pepper and salt to taste, and work until a smooth mass; roll into a roll two inches thick and cut it into fancy shapes with a cheese cutter. This cheese keeps for a week. If it is for sale, cut it into rounds or squares, wrapping it in the butter parchment and seal with one of the circular stickers with your name on it and date of making.

English Sour Curds.

One of my neighbors from Sussex, England, gives me the following recipe being something extra good. I have not tried it myself, but can see the reason why it should not be good. It is usually eaten on bread with Barle Duc jam at afternoon tea. Take thick cream that is turning a little sour. Put it into a piece of clean table linen and hang it up in a cool, sweet place over a pan to drip. Knead the bag gently every few hours to help the whey escape. After twenty-four hours take out the curd and rub it smooth. Salt and pepper it lightly. Press it into after-dinner coffee cups or into ordinary coffee cups, and when set turn out on a glass plate; cut it into slices like a pie and then each person spreads it over rye or graham bread and put on the currant jelly. The whole performance reminds me

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the "spreads" of Schmierkase and
apple butter the Pennsylvania Dutch
people give their children to "piece"
at the long mornings from before-
dawn breakfast and to the noon-
the dinner.

At Cheese.

This is made almost everywhere,
I do find someone once in a
while, that asks me how to make it.
Take sour buttermilk or skimmed
milk that has turned. Put it on the
back part of the stove, cover and let
stand until the curd squeaks when
pressed between the fingers. Then
drain off the whey by putting the
curds into a piece of cheese cloth.
Squeeze the curd down fine with the po-
tomasher. Add salt and some
cream. Some people like a dash of
away seed in it. At an Easter
dinner last year we used it to make
eggs to decorate a salad. The cheese
is colored with spinach juice and
molded into tiny, light green eggs.
When made for market it is simply
made up into balls without season-
ing of any sort. These cheeses can
be ripened in a pound ball; it ripens
strong and is then sold, as a form of
Dutch cheese, mostly to the saloon
trade. The ripening is usually done
by putting the ball into a heavy cot-
ton sack and hanging it outside in
a place where the sun will not di-
rectly strike it, nor where it will be
fined upon. After a month it is
usually considered ready to eat.
Why this does not poison the eater
I do not know; I can assure you
however, when I was a child that I
used to see many of the cheeses be-
ing ripened under the eaves of the
dutch milkhouses.

Dutchatel.

Now this is the way my Swiss
farmers treat a form of cheese that
is not at all expensive to make.
It five gallons of new milk in a
one jar and add enough rennet to
make a slow forming curd, about
half the quantity used in regular
cheese making. Do not warm it, but
tap it up to secure even tempera-
ture. After twenty-four hours it
should be curded. Then put the
curds into a sieve, or hang up in a
cheese cloth bag. After draining
twelve hours it is put into a cheese
ring and pressed over night. It is
then kneaded on a table until it is
stiff paste. Should it not be stiff, it
can be dried out by kneading it on
a clean napkin that has been made
hot in the oven. When stiff put into
small tin moulds. Any round tin
box with the bottom unsoldered will
answer the purpose. After packing
the curd smoothly slide the little cheese
out and roll between the hands,
sprinkling on plenty of fine salt;
rub the salt in until no more will
stick. Then put the cheese on a
piece of well scrubbed straw mat-
ting to cure. This cheese can be
eaten as soon as made, but is better
to leave it longer. After ten or
fifteen days the white mould that
has already been thick upon the
cheese turns blue. Then the cheese
should be put into a cellar; stand
some vessels of water around them;
sprinkle the floor daily in the dry
weather to keep the air moist.
When red spots appear the cheese is
ready to be eaten. I am not sure
that Americans will like these
cheeses, but there is a good sale for
them wherever there are foreigners.
It is said to be extra good to eat
with bread and "Dago red."—M. E.
Sermon.

For Mehring Foot-Power Milking Ma-
chines see O. J. Weber Co., 555-557 S.
Los Angeles St., Los Angeles, Cal.

From Calf to Yearling



A horse, cow or steer—any domestic animal—is, in a sense, what the breeder makes it. An inherited tendency toward heavy milking or capacity for fattening may be intensified by judicious management on the part of the feeder until succeeding generations excel the parent stock. The feeder can change an unthrifty animal into one that proves profitable. This developing of characteristics is made possible by the modern science of feeding as understood by up-to-date farmers. Hence the first twelve months in the life of a calf become of vital importance as largely determining its future usefulness. Now, to rightly develop a calf with large appetite, it's necessary to *strengthen digestion* so that increasing ration may be met by increasing appetite and no derangement result from over-feeding. To do this, give regularly, twice a day, small doses of

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In the grain ration. This is the prescription of Dr. Hess (M.D., D.V.S.) and contains bitter tonics, iron for the blood and proper nitrates to cleanse the system. It acts upon the digestive organs, correcting any tendency toward indigestion and enabling the animal to assimilate great quantities of food; hence compels rapid growth and permanently fixes the feeding habit.

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from the share-point back a third of the way across the mould board determines whether it pulls heavy or light. Three-fourths of the friction comes on this part, and this part of a John Deere plow bottom is shaped to split the ground like a thin wedge splits a stick of wood—that's one reason why John Deere plows are easy on your horses and economical for you—why the John Deere is the lightest draft plow in the world—and why there are more of them in use than any other three makes combined. We sell the John Deere plows, and carry a large stock of farm machinery. We want your business.

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In the eastern States, where dairy-
ing is a large industry, more land
may be devoted to corn, not for sale
or exportation, but to feed on the
farm from the silo, or as a grain to
the cattle and hogs and thus save
purchasing. For the protein needed
to balance the ration, clover or alfal-
fa may be grown for roughage and
soy beans will give the protein con-
centrate required.

These crops should make the dairy
farmer almost independent, as little
bran would be required. Then let
him weed out his dairy, keeping no
cow that does not give over 6000
pounds of milk, or make 300 pounds
of butter in a year. Corn, in my
opinion, cannot be grown in the mid-
dle and eastern States in competi-
tion with the great West, for ship-
ment. The grain and stover must
be utilized on the farm and marketed
in live stock or dairy products, to
make the corn crop profitable.

SAVES MONEY.

Find enclosed \$1.00 for your wel-
come Cultivator, as it truly proves
to be a good culture to all who read
it, as well as beneficial financially as
it will save its careful, thoughtful
readers money.

I would be pleased to see some one
who has good macaroni or durum
wheat for sale, to let his address
with price be seen in the ad column
of the Cultivator.—R. M. Burney, Ra-
mona.

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WHY BE A DAIRYMAN.

In the opening of an article pre-
pared for the recent California
Breeders' Convention at Sacramento,
Mr. Claud D. Tribble, of Elk Grove,
gave a very clear answer to the
question "why be a dairyman?"
From it we quote:

In the beginning it may be asked,
why be a dairyman? In reply we
will state that dairying has many
things to influence the average
farmer in its favor. These are not
new. You have heard of them or
thought them out for yourself. In
the first place, the business is ex-
ceptionally profitable. It furnishes
a constant income, and the demand
for dairy products is never ceasing.
It builds up the fertility of the soil,
thus making your farm more pro-
ductive instead of sapping its re-
sources. The man who ignores
dairying and farms for the grain or
stock he can sell is sure to injure the
fertility of his farm sooner or later.
Evidence of this is plainly seen on
many of our farms. The Ohio Ex-
periment Station has recently made
public some figures relating to the
difference in the products sold from
the farm in regard to retaining its
fertility. According to these figures,
when a man sells \$2 worth of
straw from his farm he sells as much
fertility; that is, removes it from the
farm, as he would sell \$80 worth of
butter. When he sells \$18 worth of
oats he removes as much fertility
from his farm as he would in sell-
ing \$325 worth of cream. In selling
\$20 worth of wheat at 80 cents a
bushel, he losses in fertility as
though he sold \$290 worth of cream.

Some people will believe an argu-
ment like this when you are selling
hay or grain from the farm, but they
say there is very little difference in
the effect upon the fertility whether
you keep cows or fatten steers or
hogs, or in fact, practice any branch
of the livestock husbandry. The
Ohio Experiment Station, however,
is authority for saying that when a
man sells \$100 worth of beef at five
cents a pound, he removes as much
fertility as he would in selling \$500
worth of butter; also that when he
sells \$100 worth of pork at five cents
a pound he sells as much fertility as
he would if he sold \$360 worth of
cream. As a matter of fact, in
dairying, in the selling of butter or
cream very little fertility is re-
moved from the farm. It is esti-
mated that in selling a ton of but-
ter not more than 50 cents worth of
plant food is removed from the
farm and, if the butter was absolute-
ly clean and pure, there would be
none removed.

Dairying makes the farmer a
manufacturer. It always pays to
put the products you have for sale
in the best form. The manufactured
product represents the value of the
raw material plus the value of work
put upon it and a certain profit.
Dairying also enables the farmer to
pay cash for what he buys. His re-
turns come in regularly and his ex-
penses can be readily met. Many a
farmer becomes discouraged because
he was unable to keep up with the
running expense of his farm.

Dairying makes the farming at-
tractive. Other things being equal,
the dairy farm is neater, more sani-
tary, looks better to the passerby,
than the grain or stock farm. The
dairyman must be cleanly to make
his place attractive. This will be re-
flected in the farm and surroundings

as well as in the work he is trying
to do.

You should be a dairyman because
the business is both profitable and
interesting. The boy or girl who is
interested in the work that is being
done, will find less to draw him or
her away from home.

Any work loses its drudgery just
in proportion as it demands careful
thought and attention. It is drudg-
ery that drives people from the
country. If the farmers can keep
their children at home they will be
doing a great work for themselves,
their families and society in gen-
eral. For these reasons you should
be a dairyman. Do not think these
are all. There are as many more
as there are people. Every man has
his own individuality to consider,
and this alone will tell him why he
should be a dairyman.

HOLSTEIN TRANSFERS.

The following transfers of Hol-
steins in California are reported by
the Holstein Association:

BULLS—Astrea Butter Boy, L. A.
Hall to J. A. Edwards, Modesto.

COWS—Abuela 3d, C. W. Evans to
E. O. McClure, Modesto. Frances
Emily, James M. Rea to Dixon &
Chase, San Jose. Only a Pansy Blos-
som, James M. Rea to Wm. R. Dixon,
San Jose.

FILLS ITS PLACE.

A Texas subscriber who is connect-
ed with Griffing's Semi-tropic Nur-
series at Sarita, finds satisfaction in
the Cultivator and frankly says so in
the following letter:

I enclose \$1.00 to apply on sub-
scription. Permit me to say that of
all the papers that come to our office
none in my estimation, fills the place
that it attempts quite so well as the
Cultivator. I note with a good deal
of satisfaction and profit the im-
provements that are made from time
to time showing that you are on the
alert for our interests. The large
family of Cultivator readers are to be
congratulated on having such a val-
uable paper and such an efficient corps
of editors.

Now please don't think that we
have an "ax to grind," for I have not,
but I would like it very much if you
could find a space some time for the
little poem "Sunset at the Golden
Gate," appearing in the "Sunset"
magazine in 1903, I think—possibly
1904.—P. W. Arbenz, Santa, Texas.

We will try and secure "Sunset" at
the Golden Gate" for some later is-
sue.

"J. N. Neal, a Southern Michigan
farm owner, received last year \$1500
as half the income from his dairy
farm after all expenses had been
paid. On the farm 45-head of cows
were kept. One-third of the milk
was sold at wholesale at four cents
per quart and the other two-thirds
were retailed at five cents per quart.
The receipts from milk sold at whole-
sale and retail were, \$5500 and the re-
ceipts from hogs, calves and chick-
ens, \$500, making a total of \$6000.
The expenses were as follows: Help
and incidentals, \$2000; feed, \$1000;
total, \$3000. This left a balance of
\$3000 profit. Half of this went to
Mr. Neal and half to his tenant."

VALUABLE.

In remitting for another year to the
Cultivator, S. A. Stover, Kingsburg
says: "Your paper is very valuable
to every rancher whether he be on
big or little ranch."

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takes miles off the road,
and weight from the load.

Helps the team and
pays the teamster.

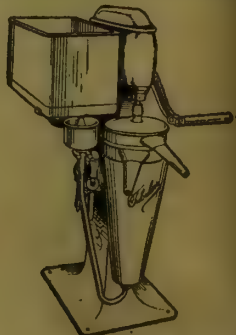
Practically destroys
friction. Saves half the
wear that comes from
jolting over rough roads,
and lengthens the life
of a heavy vehicle more
than any other one thing.

Ask the dealer for Mica
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It's your business and if you do
attend to it, who will? You can
afford to keep cows for fun. That is
business, and, furthermore, it is
necessary. There is money in it.
Keeping if you go at it right, and it
sides there is more fun in going at
right than there is in staying wrong.



You need a Tubular Cream Sep-
arator because it will make money for
you; because it saves labor; because
it saves time; because it means all the
difference between cow profits and
cow losses.

Look into this matter; see what a
Tubular will do for you and buy one
because you need it.

How would you like our book
"Business Dairying" and our catalog
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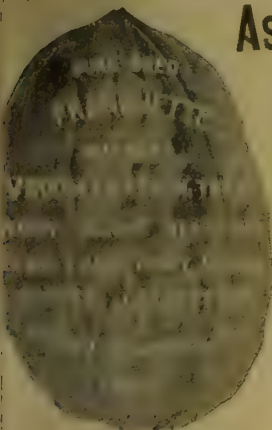
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strain large soft-shell pecans; \$5.00 per 100, \$40.00
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road station upon receipt of full retail price.
Write for particulars and ask for catalogue.

Bagalupi & Sons, 113-115 Fillmore St. San Francisco

Deciduous Fruit Culture

ADAPTATION OF VARIETIES TO CLIMATE.

WHEN we read of large areas of
land being planted to some
leading variety of fruit trees
we take it for granted that such va-
rieties as are planted are the particu-
lar ones that should be planted for
profit. This is often the case and
very often it is not. One variety may
grow to perfection in one place and
a short distance away may be en-
tirely unsatisfactory. This is strik-
ingly illustrated in the table grape
sections of the north. In those parts
where the land is rolling, the ridges
being a light brown, sandy soil and
the low land a clay soil, growers of
Tokay and Purple Cornichon grapes
have learned where to stop planting
one variety and commence planting
another. The Tokays maturing to
perfection on the ridge land where
the Cornichon does not and vice ver-
sa. One row of grapes may be To-
kays in the center and another va-
riety at each end. In another sec-
tion of the State will be found the
Tokay growing to perfection on the
lowlands.

When the true Smyrna fig was
first produced by Mr. Roeding at
Fresno, the general impression pre-
vailed that those figs could be pro-
duced on tens of thousands of acres
in that valley, and nearly every acre
produce them to perfection. It hap-
pens that such is not the case and
the boundaries of the Smyrna fig dis-
tricts of California are not yet de-
fined. When the Imperial country
came into prominence the opinion of
many was that it would open up
an unlimited area suitable to fig
culture, but later experience has
demonstrated that there is little evi-
dence that figs can be grown there
successfully, except a very early crop
of table figs.

There is nothing more important
that the grower can consider than
the subject of proper varieties for
his particular soil. Insects and dis-
ease are secondary considerations
compared with this subject.

Many prospective planters will ask,
how am I to know what varieties to
plant? If no one has demonstrated
what is the best variety in any par-
ticular district, it is up to the
pioneer to do so. When it is possi-
ble to identify similar conditions of
climate and soils in connection with
successful plantations in even widely
separated sections, it is safe to plant
like varieties. This, however, is not
always an easy matter. For in-
stance, one can stand in view of a
number of orchards in any citrus
belt that, under apparently identical
conditions of soil and climate,
produce widely different grades of
fruit, due sometimes to different
methods of handling, or frost condi-
tions.

Literature on the olive would in-
dicate that this fruit would be
ideally located in practically all
parts of Southern California. Prac-
tical results show that it is more at
home in the northern valleys, due
no doubt to a climate that is more
congenial to the plant at certain pe-
riods.—J. W. Mills.

IT'S PENNY WISE.

Policy to set out a good tree, cost-
ing good money and then let the sun
burn the bark or the rabbits gnaw
it when for \$1.00 an acre you can
get Yucca Tree Protectors that are
practically indestructible. Write for
free sample of the wrap. Yucca
Manufacturing Company, 1380 Willow
Street, Los Angeles.

RULES FOR APPLE HARVEST.

From the rules of the Hood River
Apple Growers' Union, we quote:

1. Pick all apples as soon as they
have attained the proper size, color
and maturity, and save loss from
dropping. In picking be careful not
to pull off fruit spurs or stems.
Your pickers, packers and wrappers
must not bruise apples by dropping
into the bucket or basket or in
transferring from the field box. Be
careful and do not allow pickers,
packers or wrappers to break off
stems of apples.

2. The Union will notify you all
by mail when a variety is to be
packed and how. Upon receipt of
such notice pick, wipe and have all
arrangements made for packers, as
follows: Packing house, boxes, paper,
packing table, nailing machine, nails,
etc. Notify the Union, when you
are advised a variety is sold, when
you will be ready for packers. Pack-
ers will be sent to growers in order
of notification.

3. The packing house should be
arranged to let in plenty of light, and
keep out as much wind as possible.
Provide sufficient lamp light for late
in the afternoon, as it gets dark
early.

4. Packing Table.—Each grower
should have tables for four packers.
Be sure and get one.

5. Paper.—See that you have
plenty on hand for your crop. Car-
load for sale at Union; price, cost
laid down.

6. Boxes.—Have sufficient number
on hand. Keep them dry. Do not
pack fancy fruit in dirty boxes.
Dirty boxes buyers will not receive.
Therefore, the Union will decline to
accept them.

7. Sorting.—Cull out all wormy,
scabby, scaly, bruised, misshapen or
otherwise imperfect apples. Packers,
in final sorting at prices agreed, will
not be required to cull out more than
eight boxes in 100 without extra pay.
Sort your apples into the standard or
special box, whatever they will most
likely pack into to the best advantage.
This will save a great deal of time.
Growers in sorting are requested to
put four-tier and larger in boxes by
themselves and all four and one-half
and five-tier in boxes together.

8. Wiping.—See that all apples are
properly wiped for the packers. In
piling boxes after sorting, put cleats
between, so apples won't bruise.

9. Apples on Packing Table.—
Growers will be expected to see that
the packing tables are kept properly
filled for packers.

10. Paper and Boxes Handy.—See
that empty boxes and paper are con-
veniently arranged for the packers.

11. Setting off Boxes.—Each pack-
er will be required to set off his own
box, and put on the lower left hand
corner of the end of the box with a
rubber stamp his packer's number.

12. Stenciling Box.—Each packer
will write on the end of the box the
number of apples contained in the
box. The grower or foreman will
stamp on the end of the box, in the
middle at the top, the number of ap-
ples contained in the box, and under-
neath the name of the variety. A
complete set of stamps for this pur-
pose will be carried by each foreman
of a gang.

13. Grower's Number.—Each grow-
er will be required to put on his
number with a rubber stamp in the
upper right hand corner of the end.
If you do not have a number, call at
the office and one will be presented
free. If you do not fully understand
the stamping of the boxes ask the
foreman of packers, or the manager
will explain.

14.—All stamping must be on one
end of the box.

15. Packers must pack apples so
that they will not be above the top
of the box on either end. Growers
will be allowed to refuse to nail a
box unless so packed. If absolutely
unavoidable in very large apples,
the grower will be sure to put on
cleats under the lid at both ends.

16. Piling and Loading.—Pile
your boxes, after being picked, on the

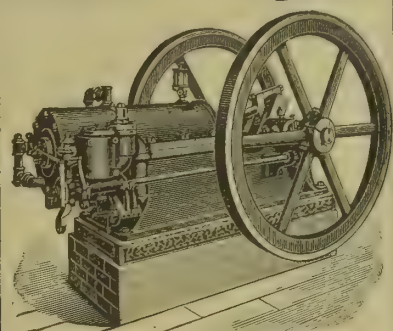
sides and load in the wagon the same
way.

17. Hauling.—Haul on springs,
and use a wagon cover to keep off
dust and rain.

18. All boxes should have four
nails on sides, tops and bottoms. A
great many boxes came in last year
burst. We, therefore, request you to
use five or six-penny cement-coated
nails, which are the only proper
nails to use.

19. We grow fancy fruit. Our
reputation and prices this year and in
the future depend on our pack. Do
all you can to assist the board of di-
rectors in carrying out their plans.
These requests are made by them for
your interest.

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Too much cannot be said in favor of the Superlative. It is a red, sweet berry three times as large as any other Raspberry, to my knowledge. It is a continuous cropper from May to November. I counted on one cane 472 berries of different sizes. Just think of a sweet raspberry as large as a Red Logan. Do you know what that means? It means for years to come heavy demand for fruit and plants. Every nurseryman will want a heavy supply. I received 5,000 plants from the introducer in Europe last Spring, and another 5,000 will arrive in November. I offer 2-year-old Plants now at 50c each, \$5.00 per 12, express paid. Going fast.

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New Catalogue of New Berries, Seeds and Plants Ready. Free.

The Vegetable Garden

SCIENTIFIC GARDENING.

OUT AT the Packard place on Carillo street, beyond the railroad, on the western edge of the city, Monsieur A. Bussiere, agriculturist, a graduate of the National School of Agriculture of France, is engaging in the work of Luther Burbank.

For three years M. Bussiere has been experimenting, as Burbank did when he began, with potatoes. He claims success for his efforts in a potato which will produce heavier crops under ordinary soil conditions, is unaffected by frost, and may consequently be grown at all times of the year; will keep longer than the ordinary potato, and has a greater percentage of starch.

This potato is a French production, acclimatized to local conditions. The first seedlings were brought from Uruguay to France, about seven years ago. They were very small, probably no more than an inch in diameter, and very red and bitter.

It has attracted much attention in all parts of the continent and being introduced largely into cultivation. For the discoverer there has been a fortune.

M. Bussiere brought the first seedlings to Santa Barbara about three years ago, and began to experiment to acclimatize them. For damp soils he claims phenomenally large crops, 33 tons to the acre, ranging down to lower figures as the dryness of the soil increases.

A peculiarity of the potato is that it grows very close to the surface of the ground, so that it may be gathered without any digging, just as soon as any are large enough to be picked. The smaller ones are left in the hillock until they mature.

Ordinary soil serves very well for the growth, but the damper it is the better. Alkali land, which is generally damp, is the most suitable for the production of large crops. The quantity of starch obtained by analysis from potatoes grown on different soils is shown to be 16.5 per cent for very damp soil; 14.5 per cent damp soil; 13 per cent dry soil and 12.5 per cent for very dry soil. This is a much larger average percentage of starch than that obtained from the common varieties.

He is probably the first person in this State to undertake the growing of mushrooms as they are produced in France.

In the basement of the barn, a damp, dark place, are his mushroom beds. He has sent to France for the spawn, a sort of fertilized soil which contains the seeds of the mushrooms. The garden is very interesting. Along the entire length of the basement he has thrown up little mounds of rich fertilized earth, about a foot high and carefully rounded. Through these the spawn is mingled until the whole bed is covered with mushrooms. Thus he reproduces seed for new beds.

About two months after the seeds are scattered through the beds, the mushrooms begin to mature, and after that the mounds frequently present a white surface over their entire length. The largest are picked three and four times a week and sometimes daily.

They are of the finest quality and command fancy prices in the San Francisco and Los Angeles markets.

They are also put on sale locally. The demand is always greater than the supply, and M. Bussiere is usually adding to the number of mounds which produce their growth in the dark and dampness of the old barn.—Santa Barbara Independent.

BETTER THAN BONFIRES.

The woman who makes delicious little dishes out of the left overs of her refrigerator and contrives innumerable pretty little birthday Christmas gifts from scraps of ribbon and lace will rake up all leaves in back yard and set fire to them without once thinking that she is violating her boastful principles of the "I wish I could have a garden, this soil is so poor I can't raise anything on it," lamented one housemother.

"You can have a good one if you will try my plan," said the woman who knew. "Last year I had an empty barrel with a square opening in the bottom, turned upside down, the furthest corner of my back yard. It was really a sort of mite box. At the opening I dropped peapods, corn cobs and husks, tea and coffee grounds, banana peelings, in short everything in the way of vegetable refuse that was not sour or salt. Sometimes I threw in a little lime to make the heap molder more quickly. Grass clippings from the lawn were in once or twice a week and this time of year I hoarded every dead leaf for there isn't anything better to make a rich compost.

"When I came to plant my garden this spring I had a bushel or more of the stuff. You remember how the Indians taught the Pilgrim fathers to plant a herring in each hill of corn for a fertilizer? I put a trowel full of my compost in every hill of corn and melons and cucumbers and dropped it in the trenches where I sowed nasturtiums and four o'clocks and planted pansies. My flowers and vegetables were far ahead of any of my neighbors. I sprinkled top soil over the compost every time to keep the tiny roots from it, and as the plants grew they reached down into it and thrived like Jack's beanstalk." —Portland Oregonian.

ROSELLE OR JELLY PLANT.

California should grow more of that excellent jelly producer, roselle (Hibiscus sabdariffa). It produces well; is comparatively easy of culture and makes a fine jelly. With it all, it is ornamental and always of interest, because of its novelty. The writer has grown it for years, having secured the first seed from the Pomona Experiment Station—since discontinued—from that seed year to year reproduced it. It is somewhat hard to get started in the spring, and last spring almost the whole number of plants were wiped out by the cutworms. Less than a dozen plants were saved and all are being saved to provide seed for next year's start again.

It produces a heavy yield of fruit per acre, amounting to 6000 or 7000 pounds under average conditions. The plant will tolerate a reasonable amount of dry weather, but responds freely to the application of water and produces more heavily. The seed is sown about March and the plants reset in the field when about six or eight inches high, at distances about four by six feet if irrigation is to be practiced. In dry localities four feet by four feet will be sufficient.



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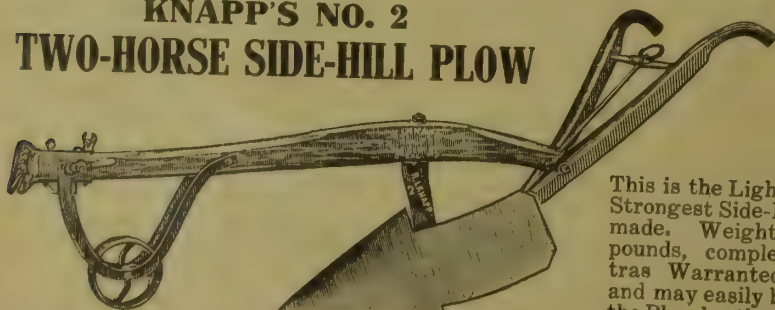
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The Italian-Swiss colony winery at is making a series of concrete

The Ornamental Garden

THE CHRYSANTHEMUM.

IN GIVING directions for the care of chrysanthemums from September first till their blooming period, it is supposed they have received good care up to this date.

There are different methods of propagating the plants—one, by cuttings, which is the proper method, and by division of roots, which is wrong, and will not produce near such good results. Taking it for granted you have secured the best plants. These should now be from two feet to four feet tall. There are two methods to be considered—one to produce show flowers, and the other to produce quantity of bloom; and while the care is the same the culture is directly opposite. To produce show flowers the plant should be of single stem, all side branches and suckers should be carefully removed while small, and the plant given the greatest care; staking should be postponed as long as possible and stocky growth induced, but if the plant is weak it should be staked.

The bamboo stake is by far the best, being strong and durable, and above all being small and unobstructive. These can be secured from seedmen who handle such supplies. As soon as side buds commence to appear they should be removed and all growth allowed to one stem and terminal flower bud, leaving but two at most, and ultimately selecting the best of these, removing the weakest one. As soon as the flower begins to open, a light covering of muslin should be drawn over the plants to screen them from the hot sun and winds. Cut off the stake a few inches below the bud; carefully and strongly tie top to avoid whipping. A well grown flower will measure according to variety from six to twelve inches in diameter and is accordingly quite heavy and will easily be broken or injured.

The common method of culture is the desire for quantity of flowers with no regard to size. These are allowed to branch and sucker and are grown in clumps, but should be gathered together and tied up to a stake. To improve size of flower reduce the number of stems and trim off some of the side shoots and encourage "terminal" blooming. That is, remove part of the bloom buds from side of shoot.

Fertilizers.

The chrysanthemum is a heavy feeder and strong fertilizer can be applied in large quantities. This should be well attended to at the planting and continued, as they require it through their growth. On heavy, stiff soil use a heavy mulch of stable manure. Commercial fertilizer will do well if on light soil. In the Eastern States, and especially in parts of Europe, Clay's fertilizer is almost exclusively used about one month before the buds begin to open. This is given to the plant in considerable quantities, and is considered the ideal fertilizer for them, but so far it has never been used on this coast. Strong liquid fertilizers are also applied, especially to plants grown in pots.

The utmost importance, after the flower begins to open, is to protect it from the wind, rain and sun, as the wind will whip and destroy as well as the rain, while the sun will bleach them out. Muslin is probably the

best article to use for this covering. It well repays one for the little trouble and expense. These items should be taken into consideration when planting your bed next season to so arrange the bed as to be easily covered and protected.

Some early varieties are now blossoming, while many others are only in small bud and will not be out until towards the holidays.—O. M. Morris, of the Morris & Snow Seed Co.

A GARDEN FOR PLEASURE.

Give your garden a chance to prove what can be accomplished there. Start in time to plan for the arrangement of the little garden spot, choosing the flowers which seem best adapted to it, and prepare the ground for the reception of seeds. If the space is large, have it dug for you, though if possible, take the time outdoors and accomplish the work yourself. You will enjoy it and it will pay you a thousand times in health and strength.

Do not try elaborate designs, for it will mean enlarged expense, for taking more time, and the chances are ten to one that it will disappoint you after all. Instead make the flower arrangements as simple as possible, blending two or three pretty flowers and vines and giving them plenty of room to grow and spread themselves. This will aid in counterbalancing the disadvantages of shade and poor soil. Give your back yard garden a fair chance and see if it does not repay all your care of it, by filling your summer days with brightness.

GROW FLOWERS.

It is a surprise to me to see how many, young and old, come to me for flowers. They want them for church socials, for decorations, for weddings, for the cemetery to place on the graves of the dear friends that have gone before, and for many other purposes. They all get flowers as long as I have them to give. Yet how easy it is to grow flowers, but how few there are who do so, compared with the whole number who might do it.

There is nothing which does so much to please the eye, and lends so much grace to the home, as flowers and vines. So many stop to look at my few flowers, and ask for a rose, a dahlia, a crape myrtle or some other of my floral pets, and they never ask in vain, so long as there is a bloom. I take as much pleasure in giving flowers as I do in growing them. None go away empty handed. Young and old, rich and poor, all have a happy smile for the old man as they say, "Thank you."

Today, three little ones came and asked me for some flowers for the decoration of their church for Monday evening; they said there was to be a concert and that they wanted just a few of my pretty flowers to help make their church look bright. They will get the flowers, a nice bunch, at that. It is one of the pleasures of my life to make children happy, and it can be done at so little cost to the growers.

I remember reading a verse like this: "As ye have done it unto one of the least of these, my brethren, ye have done it unto me."

Why do not more of the people raise a few flowers, and have them to give away to those who do not know how, or lack the inclination to do so? Try it. Make your home more attractive, and some sick or well friend more happy. Try it and see if you are not little nearer Heaven than you were last year.—The Old Man That Loves Flowers, In Florida Agriculturist.

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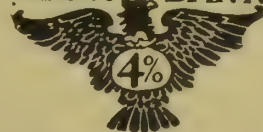
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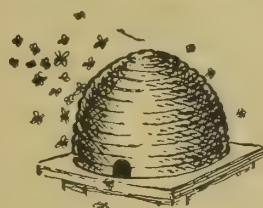
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SENSELESS FINANCIAL AGITATION.

There are premonitions of disturbance in the financial conditions of the country. Just why, no one seems to know, for never in our history have times been more promising. The crops in the Middle West are record breakers and money is cheap there, except, possibly, in localities where the corn crop has been caught by early frost, as in Ohio.

But there are pessimists and dissatisfied parties who seem bent on bringing on a financial crisis, if such a thing were possible, and these pessimists and disturbers are composed of Wall street gamblers, sour politicians and litigants who have come under the heavy hand of the law for violation of the Elkins National statutes. To this class is added what is known as the promotive real estate interest, which has been denied credit at the banks for further wildcat speculations. During the past four months there seems to have been an effort on the part of a good many real estate speculators to systematically cry down existing prosperity, and the endeavor to create the impression that there really exists a money panic in the country, or that we are on the verge of one. So far as these speculators are concerned, there probably is a panic, for scores of them have gone into senseless speculations, buying and cutting up thousands of acres of farm lands into subdivisions, which are so remote from business centers that they will not be needed for homes for the next ten years.

These promoters have done the country immeasurable damage. They have cut profitable farms into unprofitable town lots; they have produced fictitious values based on speculative possibilities; they have tied up the money of the labor-

ing classes in lots and in subdivision interests, and rendered these people hard pressed to meet their obligations. In short, they have over-boomed, over-subdivided, over-calculated the substantial growth of the territory surrounding the large cities of the country, until the "boom," becoming top heavy, is leaning over.

It is no wonder the banks of the country have called halt on lending money for wildcat speculations. They ought to have done so two years ago. They would have rendered a lasting service to the business interests of the whole community had they done so.

But all the schemes of Standard oil, and all the endeavors of land cinched corporations, to bring on a financial panic for revenge against the government and the banks, will prove futile.

Why?

Because there is solid prosperity throughout the United States. Legitimate business was never more secure. Every business man, who is doing legitimate trade can borrow all the money he wants in his business if he has the security behind him.

Every farmer is making money who is working intelligently and industriously. As a class, the agriculturists are richer today and making more money in 1907 than ever, and it goes without saying, when the farmers are prosperous there are good times, and when times are good there can be no general panic.

So far speculators and stock gamblers are concerned, no one cares whether they win or lose, their operations do not effect the general prosperity of the country, and the sooner they are brought to a condition of honest toil the better. Not only for their own sakes, but for the sake of common honesty as well.

No, there will be no general panic. There may be and there ought to be, a curtailing of promotive schemes without foundation in them, but so far as legitimate business goes, we shall see continued, steady progress, at least as long as the farmers continue to grow richer with each succeeding year. Agriculture is the basis of all our wealth anyway, and so long as we promote agriculture we shall be secure against the assaults of stock gamblers or pernicious politicians seeking disasters for personal benefit or revenge.

When Ex-Secretary Gage of the Treasury was in Los Angeles some time ago, he was interviewed by a newspaper reporter and one of the questions propounded was: "Secretary, will we have hard times soon, and if so, what will cause it?" To which he instantly answered with some spirit: "No sir, we will not have hard times soon, but if the condition should come it will be caused by just such fool questions as you are now asking me."

In other words, the everlasting discussion of hard times brings hard times. The hopeful forging ahead of all business lines indicates that the "fool question" isn't receiving very serious consideration.

FRIENDLY BIRDS AND INSECTS

If the introduction of ornithology into the public schools as an applied science will have the effect of teaching children the value of birds and insects to the garden and orchard, the sooner it comes the better.

In some of the High Schools in California we note the introduction of ornithology and approve of it.

Probably the best authority on birds and insects is Prof. Mason. In one of his articles he treats of friendly birds and insects as they relate to the garden and he teaches us that we should treat these intruders with kindness, rather than abuse them for the good they do. He insists that we should learn to distinguish between foes and friends in the garden and, if necessary, the children should be taught early the difference between insects and birds that do harm to plants and those that do good. Snakes, toads and lizards, instead of being injurious to plants are always invaluable in keeping down insects. Snakes may be repulsive in appearance, and poisonous ones very dangerous, but the ordinary ground snakes will not hurt one, and they will keep down mice, bugs and insects as nothing else can. As a rule, the noxious insects are in the greatest numbers in our gardens, and hence toads, lizards and snakes

that eat all that comes near them destroy more the foes than friends. "I should never think of killing one of these creatures in the garden," said Mr. Mason, "but would be inclined to protect them, and even to import them into the garden." "I have seen a small gray lizard clean the worms from a field of cabbages as fast as they could multiply. Attracted by the fat the lizard returned every day, and he would make trips up and down the rows of cabbages until a worm could be found."

A few toads in hotbeds and cold frames are inestimable value. They will keep down all insects that begin to show themselves, finding them under leaves and stalks that hide them from the ordinary observer. In Paris toads are regularly caught and sold to gardeners for insect hunting in their greenhouses. And yet many boys and older people destroy them ruthlessly as soon as they discover them in the garden. The toad will eat cutworms by the wholesale if they can find them, and have seen them devour potato bugs in great numbers when deprived of more palatable food.

But we have also friends among insects, and it is well to bear in mind that they can do much good for us. The so-called lace-wing insects are nearly all friendly to us. They live on other insects, and do not eat any part of the plant. A few can be turned loose in a greenhouse they will destroy all insects other than those of their own class. In this class are included the antlion aphidions and dragon flies. For every one of these we kill we must expect a dozen enemies to spring into active existence that must be destroyed by spraying.

All members of the hostile family are insect eaters, and they go around the gardens in search of their prey continually. They will attack large grubs and other insects, as well as the very small plant lice that hide behind the leaves. These beetles must be distinguished from others that destroy the plants. The large robber flies are all great friends in the garden, and they will attack all kinds of grubs and insects. They are particularly eager to destroy aphids.

So the professor goes on through a long list of birds and insects which he avers are the best friends the lawn and garden has. We all know the mocking bird and the brown Betty and many other species of our native birds are wonderful worm hunters. They swoop down on a new mown lawn and clean it of worms as soon as the mower has gone over it.

We should learn early to distinguish between the friends and enemies of our lawn and garden, and the best way to do this is to teach the children in the public schools what birds and insects and reptiles to protect.

THE WEARY TRAMP.

California is the ideal winter country for the hobo. Even now he is wending his way from the inclement Middle West to the sunlit clime of the Golden State. Every winter we have an influx of this undesirable class.

The tramp hates two things, work and soap, and it is a question which of the two he dislikes most. If we would be rid of the tramp, we could do so by putting him to work. Making good roads is especially his forte, and if anything will do the business of clearing the State of this nasty element, work will. California has an unlimited amount of roads to make and help is scarce; why not utilize this tourist class for improving the streets in town and the county? Instead of merely locking tramps in the calaboose, where they get board and lodging free of charge, put them at work in gangs on the roads. The money appropriated by the State will not be sufficient to make all the roads that have been mapped out and a few days of good hard work extracted from every tramp that happens along will go a long way towards getting the highways into shape. It will also have the effect of making the "walking tourists" give the State wide berth in their future peregrinations. If county sheriffs and their deputies and city marshals would go out into the highways and byways and corral all the tramps they can find, our roads will be improved and at the same time the communities will be rid of an undesirable class. The experiment has been tried in several States with excellent results.

Agricultural Notes of the Pacific Coast

Northern California

Apple blight is ruining many orchards near Red Bluff.

Hop growers near Redding are holding for better prices.

The pre-cooling plant at Roseville is said to be working admirably.

Walnut trees near Grass valley indicate that to be a valuable crop for that section.

One Tokay grape grower near Lodi receives \$50 an acre for Tokays from his two-year-old cuttings.

A recent meeting of the Petaluma Grange received reports from the delegates at the State Grange of San Jose.

At an auction of sheep at Dixon recently the ewes averaged \$7.85 per head. Stock was not thoroughbreds but simply grade stock.

A lemon tree at Lodi, twenty-seven years old, is producing about two thousand lemons on an average a year. Fruit is exceptionally fine.

The Sacramento valley papers do not take kindly to the suggestion of calling the Sacramento and San Joaquin valleys the California valley.

District attorney of Alameda county is evoking the Cartwright law to break up the combination of dairymen supplying milk to that section.

Over twenty-six hundred carloads of grapes have passed through Sacramento for the east this year. This is largely in excess of the '06 crop.

The Ukiah Creamery Association has agreed upon plans for a creamery building, and construction has begun. Five hundred cows will supply the milk.

The Ukiah Times says that the local hop market is somewhat better than earlier in the season, and a few sales have sold close to the ten cent line.

Of California's fifty-seven counties, Alpine, Del Norte, San Francisco, Mono, Sierra and Trinity are the only ones which are not fruit-producing counties.

Members of the Drainage Committee of the Sacramento drainage district recently took a trip of inspection down the river from Colusa to Sacramento.

The Alameda Sugar Co. has leased twelve hundred acres of land in Yolo county and the expectation is ultimately a new sugar factory will be established there.

There were thirty-five hundred acres planted to sugar beets at Hamilton city this season, which it is hoped will be increased to ten thousand acres next year.

An experiment is being tried in storing peaches in Marysville. They have already been in the cold room four weeks and are as plump and nice appearing as ever.

Alden Anderson, president of the California Fruit Distributors' Association, says that fresh, deciduous fruits will bring to the northern part of the State over \$10,000,000 this year.

The entire town of Sam'l O'Posen was sold for taxes recently and will now be used for grazing land. This is a town site plotted on extremely poor land and the deeds to land given away with each ticket to a certain theater in San Francisco. Of course, the holders to the deeds never paid taxes.

Central California

San Jose offers five cents bounty on every rat.

Fresno claims good results from the recent raisin festival.

Lemon Cove is planning to raise bullfrogs for the market.

Pajaro valley people held their apple fair at Watsonville last week.

Modesto is hoping for the establishment of a cannery in the near future.

Nearly all raisins were stored or well under cover before the recent storms.

Dried peaches in the San Joaquin valley are nearly all in the hands of packers.

An effort is being made to secure the establishment of a fish hatchery in Tulare county.

A two hundred-acre prune orchard near Visalia yielded five hundred tons of cured product.

Sugar beet contracts are being signed up by many growers in the neighborhood of Corcoran.

Packers endeavoring to buy pears near Fresno have been unable to get any material quantity.

Some people in Tulare county maintain that macadamizing is preferable to oiling, even considering its additional cost.

Railroad companies are still unable to supply cars for transporting hay and other products from the San Joaquin valley.

A number of Chinese pheasants have been introduced into Eastern Tulare county and it is hoped they will become acclimated.

The dumping of raisin seeds from the packing houses in Fresno into the sewer has caused trouble with clogging of the main outfall.

The honey season in the neighborhood of Fresno is nearly over and there are now only a few cars to forward. Prices have been very good.

Many dairymen in the neighborhood of Hanford are putting in testing appliances for determining the performances of each cow in the dairy.

The directors of the Kings County Poultry, Pigeon & Pet Stock Association held its meeting last week to make plans for the show to be held November 26th to 30th.

It has been found that the demand for dried fruits in Eastern markets has, to a certain extent, been unfavorably influenced by the sulphur agitation earlier in the season.

Notice is being published in the matter of the formation of the reclamation district in Fresno county, to be known as Crescent Reclamation District. It will reclaim land along the Kings river.

"Rainmaker" Hatfield, at Los Banos, wants to contract at three cents per acre for one hundred thousand acres to supply twelve inches of rain on the West side. It is reported that he is finding some "e-z-marks."

California shipped ninety-eight cars of cherries this season as against one hundred and forty-nine last year, but against that we shipped seventy cars of green apricots as against sixteen cars last year.

Southern California

Oxnard has a new veterinary hospital.

Chili peppers are being shipped in car lots from Garden Grove.

The Delhi Creamery at Santa Ana was destroyed by fire last week.

More shed room is being built by the Imperial valley melon raisers.

California Vegetable Union shipped two carloads of tomatoes last week.

A cloudburst which hit Redlands last week caused some little damage.

Bee men of Imperial Valley will meet at El Centro on December 26th.

The last car of San Diego county honey has been shipped for this season.

Lompoc has just shipped twenty carloads of mustard seed valued at \$25,000.

A bunch of Texas colonists arrived at El Centro, Imperial Valley, last week.

A cannery to employ five hundred hands is under construction for Riverside.

A West Riverside dairyman has established a foot-power milking machine.

Next year's Imperial valley crop of cantaloupes will be twice that of last year.

Brawley is preparing for its institute of December 5th, with a good program.

Eleven tons of beets to the acre is the average in the Huntington Beach beet section.

Riverside county is buying a new rock crusher for aiding in building its new roads.

The first snow of the season is now visible on the mountain tops of the higher ranges.

Imperial valley has just received a carload of beets shipped in from near Escondido.

The crop of beans in the lower lands west of Santa Ana, is said to be exceptionally good this year.

Various counties in the southern part of the State are combining to fight the dustless roads oil patent.

Rialto wine grape growers have shipped most of their grapes this season to the Cucamonga winery.

A Pomona seed man reports an unusual sale of field peas for green manuring during the past season.

The health officer at Riverside has reported the finding of formaldehyde in the cream delivered at that city.

The high price of alfalfa seed has not discouraged the Imperial planters and much acreage will be sown this year.

Sawtelle, near Los Angeles, has nearly one hundred and fifty acres of chili peppers nearly ready for harvest.

Perris claims a grape vine which was a cutting this spring and shows a growth of twenty-five feet for this year.

Nearly four hundred cars of hay and grain and two hundred cars of alfalfa will have been shipped from Hemet this season.

Manager Jones of the American Beet Sugar Co., at Alamitos, says that the average sugar content of beets for that section has been sixteen per cent.

The Coast

Eastern dairymen are heading for Colorado.

The Willamette Valley fair will be held in Portland November 14th to 16th.

Oregon State Poultry Association will hold its annual show at Portland January 8th to 14th.

The best exhibit of Utah's products ever made is the verdict regarding the recent Utah fair.

Clover growers in Yamhill county, Oregon, are getting twelve to fifteen cents per pound for clover seed.

The Coos Bay country is producing cranberries which are now quoted in San Francisco at \$3.50 to \$4.00 per box.

The Hawaiian Islands have an annual yield of fifty-seven thousand tons of sugar produced from twenty-three thousand acres of land.

Owing to the failure of railroads to furnish cars, a large packing company at Tacoma is canceling contracts for purchases of cattle.

The Idaho Experiment Station is at work breeding a strain or variety of sweet corn which will mature seed in Northern Idaho by September 10.

Larger shipments of pineapples, Avocado pears and bananas were made to the coast from Hawaii this season than any season heretofore.

The Oregon Agriculturist is appealing for a revival of dairy butter, claiming the creameries are putting up a lower grade product than they should.

The Agricultural College at Colorado is to establish a new feature in a farmer's institute train which is to hold institutes along the line of the Santa Fé railway.

"The largest exhibition of horses ever made this side of Chicago" is the claim of the Oregonian for the horse show to be made at Portland, November 7th, 8th and 9th.

Judge Wolverton, of the United States District Court of Portland, Oregon, handed down an opinion which sweeps away restrictions upon the admission of the Japanese.

Twisp, Washington, is about to revive an old irrigation scheme which formerly failed which it is now claimed will bring thousand of acres into more profitable production.

Cotton in southwestern Texas is said to be in extremely poor condition, running only about a quarter bale to the acre. The damage was caused by the cotton boll weevil.

The Oregon Agriculturist says that the output of prunes from that State will yield to the producers close on to \$1,200,000 instead of \$500,000, which has been claimed by some others.

The usual belief that tomatoes could not be produced in Puget Sound country, is blasted by the production this season at Sumner, Washington, of fine crops of tomatoes which have proven very profitable to their owner.

Three hundred thousand bushels of wheat will be marketed at Steptoe, Washington, this season. The crush to get the grain delivered is often such that farmers have to leave their wagons standing over night in line for delivery next morning.

PER
2 BUSHEL
SACK

\$1.90

PER
2 BUSHEL
SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by all largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledge standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis Worlds Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Flicher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland.
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis and Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

Beef Scraps Raw Bone

GUARANTEED ANALYSIS:

Protein.....65%
Fat.....8%

Made of Cooked and Dried Livers, Lungs, Melts and Clean Scraps. No fertilizer ingredients in these Beef Scraps.

Pure, Clean Animal Matter Poultry Foods

WESTERN MEAT COMPANY SOUTH SAN FRANCISCO CALIFORNIA

GUARANTEED ANALYSIS:

Protein.....25%
Phosphates.....45%

Made of Clean Beef Bones, surplus fat removed. Cleanest Raw Bone on the Market.

Lincoln Avenue Poultry Yards

—Capt. Mitchell's S. C. White Leghorns—

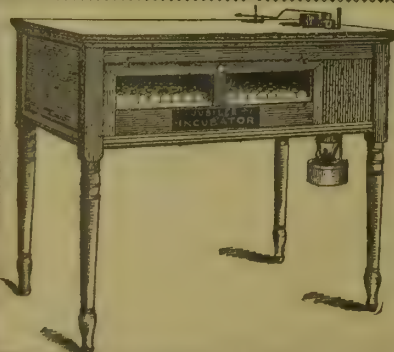
Utility birds of the highest grade. They will average from 150 to 280 eggs per year. The eggs will average 2 ounces and over in weight, with smooth, white shells.

Just a few breeders left at half price. **Positively no culls.**

Carl C. Curtis, Owner

Ranch Mirasol

Lincoln Ave. and Ventura St., Pasadena, Cal.
ALTADENA CARS



The Jubilee Incubator Co.

HAS A BIG SURPRISE FOR
THE POULTRY FRATERNITY

SUCCESS NOW ASSURED BY USING
The Jubilee

We have something new for you. Send us your name to place on list for Catalog "J" being issued.

Jubilee Incubator Co., Sunnyvale, Cal.

Beef, Blood and Bone Will Make Your Hens Lay

This is not a medicine but a high grade nitrogenous food. Write for free booklet "How to make Hens Lay." Our Poultry Foods are sold by all local dealers and manufactured solely by

The Pacific Guano and Fertilizer Co., Indiana and Yolo Sts., San Francisco, Cal.

Also Pioneer Manufacturers of High Grade Fertilizers.

Write for our free booklet, "Farmer's Friend." Valuable to all farmers and ranchers.

Profit in the Poultry Yards

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experiences with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

VARIOUS TOPICS.

IN ANOTHER column we print a letter from one of our readers who wants information along lines of general poultry culture. One of the questions, as to the number of birds one man can take care of, can hardly be answered intelligently. For the writer to say that one could not take care of 500 or 1000 birds as it should be done, would be assuming a good deal. In other words, it will depend entirely on the man behind and arrangements of houses, yards, etc. There are poultry ranches in this State where one man takes care of more than this number and gives them the proper attention.

Speaking in an offhand way, we would say that a man to care for a dairy of ten cows and from 500 to 1000 head of poultry, would have to work from ten to fourteen hours a day or neglect either his dairy or his poultry. However, if a man is a strong, willing, hardworking and thinking man, he can accomplish a great deal along these lines.

We know of no business that calls for longer hours and more work than the dairy business, and to make a success of the poultry business, one has to give it close application. So in the last analysis we will say, start in a small way and grow to your limit, whether it be 100 or 1000 head.

Open Front Houses.

The open front house when faced so the wind will not blow directly into it, is good for California; we prefer it with a burlap curtain to let down in damp or foggy weather.

The writer had the privilege of visiting a ranch last week where over 600 Black Minorca hens were kept. The houses on this ranch were made of canvas, with dirt floors. Separate houses were used for roosting and laying. We were told that this style of house was used the year around with good results. That the net profit was over \$2.00 per hen per year. The writer looked the flock over very carefully and failed to see one sick bird, which certainly speaks well for the treatment they receive.

Leghorns and Orpingtons.

For eggs and roasters, we would say that in selection of the above breeds you acted wisely as both are good; our advice is always to select the breed you like best, as all have their good points.

There certainly is a good market here for both eggs and broilers or roasters; we could write an article on preparing and marketing poultry, for we feel that this is a branch of the industry that can be improved a great deal and certainly needs more attention than it is getting.

Capons are also in good demand, but only large, heavy, fat ones are wanted. A thin capon is no better than an old rooster, but fat, prime capons command the best prices the year around and dealers in all large cities complain that they cannot supply the demand.

Private Trade Best.

The best and most satisfactory way of marketing eggs and poultry is to private trade. Arrangements can be made with the large hotels and res-

taurants whereby you can ship them each day, thus insuring a ready market for your product and at good prices. This, of course, is for dressed poultry.

Swift & Co.—the largest poultry dealers in the world—pack their stock in boxes and grade it as follows:

Weight per dozen.
Large broilers26 to 30 pounds.
Small broilers20 to 25 pounds.
Small fryers31 to 36 pounds.
Large fryers37 to 42 pounds.
Medium roasters43 to 48 pounds.
Large roasters60 pounds and over.

For private trade direct to families, some poultrymen pack the birds in pasteboard boxes, each holding one bird.

If you ship to commissioners, you should be taken to investigate and reliability, as a dangerous number of concerns are in the business to fleece everybody. This practice is so common that the United States government has issued this advice to shippers:

As to Commission Houses.

"Beware of being tempted by higher market quotations than are sent out by well established dealers. High quotations are the favorite bait of the impostor."

"There is also a legal point that is well to bear in mind. In most, if not all States when a commission merchant receives goods on consignment he becomes the shipper's agent, and any attempt to defraud his principal is punishable by fine or imprisonment. Not so if he buys goods outright, agreeing to pay for them at a stated price. In the latter case the shipper's only recourse if he fails to receive the contract price is a civil suit, resulting in a judgment generally worth no more than the paper it is written on. For this reason, dishonest merchants frequently offer to buy outright. Too great care cannot be exercised in these matters. When a direct sale is made, except to a well-known house of good reputation, the safest method of procedure is for the shipper to consign the goods to his own order, making the draft through bank or express company and attaching it to the bill of lading from the railroad company, properly indorsed. The bank or express company will then present the draft and surrender the bill of lading only on payment, so that the commission merchant cannot obtain the goods until he has paid for them." Five cents on the dollar is the usual commission for selling poultry.

AN INTERESTING LETTER.

In your August number you asked your readers to write of their methods of caring for poultry, and as I have had some success, will try and help some who have not yet learned by experience how to make poultry pay, writes Mrs. West of Gardena, in Commercial Poultry. I keep from 200 to 400 chickens of all kinds. We live on a ten-acre place and they have the run of the place. If I want flowers or garden, that is fenced, but never the hens. I have been in California 23 years and have raised thousands of chickens in that time.

Some Pests.

Of all the pests to contend with

here, the mites are the very worst, or they get a start and take you by storm. But years ago I wondered why I could not scald them as we did red bugs in the East, and since then I can manage them; but you must not have your roosts nailed to the wall of the hen house, or so a hen can come in contact with the wall, for the mites will leave the chickens in the morning and hide in the hen house during the day and be ready for their work at night. Our roosts are planed two-inch slats, resting on stout saw-horses. I can take them all outside when I go to clean the house and scald them, and if the nest box gets infested with mites, just use acid, and clean with hot water. It will penetrate every crack or nail-hole and is better than any spray or wash that is made and costs only a little work. Go into the house in the early morning and turn over the roosts and see the mites hiding, filled with blood. Some morning I will take a quart of boiling water and go in the hen house and put the rest to sleep for good.

Pure Water.

One thing that must be looked after is clean, cold drinking water. I use the best granite pans, for I am afraid of rusty tin pans. I keep a whisk room hanging near the hydrant, and I fill a pan ten times a day it has to be cleaned with the broom each time. I never give any medicine in drinking water, for the fowls will suffer for water before they will drink water with medicine in it. How would we like to be compelled to drink water with medicine in it when we wanted a drink? Chickens drink more accordingly than do people. If you don't believe it, just watch them. I have to give medicine, I give it in milk or mash, but never in the water. I have been at places and seen the drinking water for chickens just red with copperas.

Good Tonic.

The only medicine I ever give, and have not had a drop of that on the place for two years, is Douglas' mixture. It is the best tonic made, but don't give it all the time. Use one pound of copperas to one gallon of hot water, and add one ounce of sulphuric acid. Keep in a stone jug or glass jars and use one teaspoon to a quart of milk or bran mash, and give no more than three times a week. I never keep geese or ducks with my chickens, for they get the drinking water so filthy, and this is the main cause of disease. I keep oyster shell, also granite, on hand all the time and break up every bit of glass and crockery for the chickens, and don't think it will kill them, as a woman in Los Angeles told me. She said she knew - someone had poisoned her hens, for they had broken glass in their gizzards. All pearings or vegetables are washed and boiled and given to the chickens. I keep a pail in the kitchen and all rinsings from the dishes and scraps are put in that, and then with a pinch of salt and mixed with bran, it makes a change for the chickens, and they like variety as well as we do. Now they are having a treat every day, for we are having lots of melons and they get their share.

Nice Profit.

This letter is getting rather long, but when I tell you that I have made over \$500 a year on my hens, I think it is worth writing about. This year I expect to make \$800 or \$900. I do my own work and have lots of time to read, and belong to a few societies,

and have time to go to the city to a good play or concert. I often wonder when I go in the large stores and see the women and girls standing all day, how much more they could make if they would keep chickens and take care of them. Why, if I wanted a sewing machine or an organ or even a piano, I would just get some hens and make them pay, and if I want ten or fifty dollars, I don't have to beg for it, as some women claim they do. For over three months this spring my hens laid 15 dozen eggs a day, and I was getting 20 cents per dozen at the door.

We always buy our grain by the ton. We raise our own corn, but I feed mostly wheat and Egyptian corn with bran mash occasionally. I never feed blood or meat meal. In the winter I get up early some mornings and make a hot bran mash and put in a little cayenne pepper, just as you would season your soup, and it is worth the work to hear them sing. I never use the dry mash. I don't think I would like to eat dry bran; in fact, I try to treat my chickens as I would like to be treated. Now, Mr. Editor, I know this is a long letter, but I hope it will encourage more to give better care to their fowls, for there is money in it if you take care of them.

HINTS FOR POULTRY.

It is one of the worst crimes of man, at least it appears so to me, to be cruel to dumb creatures, and yet it is a very common fault. I think some of the worst cases of cruelty to animals occur in the poultry business, especially in the city, where the fowls are compelled to be confined.

There is that small run with fifty or one hundred chickens in it. The owner thinks to get rich next winter with eggs laid by his early hatched pullets or by his early broilers. He provides no shade, no green food, and not a quarter enough water for his flock, yet he will expect to get winter eggs and if he doesn't will blame the breed and next year try another. The only thing his chicks have enough of is lice. With these his flock is well supplied and yet he grumbles when his chicks die off like poisoned rats.

City poultry raiser, put away your pipe and that dime novel one hour earlier each night, go to bed, and arise one hour earlier the next morning. Spend every minute of that extra hour on your poultry and notice the result.

Poultry of all ages should be greased or powdered at least once a week. One can not be too free with the lice powder. I had a hen only this week that apparently went crazy when I was feeding her. She tried to stand on her head and did all manner of crazy stunts. I immediately separated her from the rest of the flock. She breathed hard and her head turned a deep purple in color. I examined her body carefully and found many lice. I covered her with a good insect powder. Having previously lost fowls with this same trouble, I put some of the powder in her ears and in a short time she was much better, but very weak. She is improving fast. Although I had dusted her with powder regularly lice would have killed her if I had not been careful. This shows the importance of exterminating lice from your premises.

Another common fault in city poultry raising is not feeding the birds enough. They should have all they will eat, none to be left.

Inbreeding is another dangerous fault. Introduce new blood into your flock each year or two years at the

50 Cent Eggs

You may feed grains alone until doomsday and you will never get many of them. You must supplement grains with some highly nitrogenous food, rich in protein, to keep the hen in good health, build up her system and furnish her with the material for making eggs.

Egg-More

is just this and nothing else. It is not a strong tonic and stimulant, but contains enough condiments to give the food relish and keep the fowls in fine fettle. Just a little fed daily with good grains, or even with bran will do it. It can be fed either dry or as a mash. The hens like it, they eat it, there is no waste. It makes the very cheapest Egg Food, especially if you can buy your grains at home cheaper than to ship them in. The cost is but a very small per cent of the increased egg production. 4-lb. package, 35 cents; 25-lb. pail, \$2.00; 50-lb. sack, \$3.75. If your dealer doesn't keep it, we will deliver a pail or sack freight prepaid by us.

West Coast Stock Food Co.

818 San Fernando St. (Through to Alameda) Los Angeles, Cal.

Reasons Why

Every Poultry Raiser Should Use

A. C. W. Goods

Ask Your Dealer

Because They are free from chemicals.

Because They are manufactured in Los Angeles—always fresh.

Because All chaff and indigestible matter is eliminated. No stomach or bowel trouble.

Because A. C. W. Egg Food is prepared scientifically, feeding to laying hens the necessary elements in the best proportions to produce eggs.

Because There is no waste to A. C. W. Foods.

Because A. C. W. Goods are sealed. This insures the consumer obtaining them in their original condition of purity.

We also manufacture Bone Meal, Blood Meal, Beef Scraps

Agricultural Chemical Works

901-907 Macy Street

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Baby Chicks Eggs

All Standard Breeds

We are the pioneer hatchers in this section. Chicks can be shipped 1,000 miles without loss. Our chicks are hatched in a 25,000-egg incubator and are strong and healthy.

We make no extra charge for crating and can sell cheaper than any others in this line.

Write us for prices on any Standard Breed in any quantity.

Eggs from all breeds. Incubator Lots a specialty.

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Doke Stock Food Co. 711 So. Main Street
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FERN PARK POULTRY RANCH

EGGS FOR HATCHING

All Eggs are from good, strong vigorous stock.



WYATT & WOLLITZ, Proprietors

—Breeders of—

**Single Comb Buff Orpingtons
White Rocks and
Indian Runner Ducks**

Orpington and Rocks \$2 per setting; \$6 per 100.
Duck Eggs \$1.50 per 12.

Write your wants. Correspondence carefully answered.

Box 298.

WYATT & WOLLITZ, Corona, Cal.



Clover Cutter

Every Chicken Raiser needs one.

Price \$7.50

All orders shipped same day received

Arnott & Co.

Los Angeles St., bet. 1st and 2nd
Los Angeles California

Mammoth Bronze Turkeys

Well Bred, Carefully Selected Cockerels
Good Style, Good Size, Pure White Birds

One and Two Year Old Hens and
Early Hatched, Well Matured Toms

S. C. White Leghorns Eggs for Hatching, Any Quantity
Write your wants.

No trouble to answer inquirers. Satisfaction guaranteed.

Stuhr-Williamson Poultry Company

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Home Phone 149

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Acme Roup Cure

Cures Roup and Colds

How? It's dead easy. Just place the medicine in the water, the fowls drink, and before you know it the fowls are cured.

50c and \$1.00 per Tube, Postpaid

Henry Albers Co. 315 So. Main St. Los Angeles

200-250
Egg Fowls

White Wyandottes

Leading Coast
Strain

We are now ready to furnish day-old chicks, eggs for hatching and breeding stock at our usual rates. Fine Exhibition Stock for Fall Shows.

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POULTRY SUPPLIES AND INCUBATORS

Agent for **Dayton's Roup and Canker Cure**, positively guaranteed to cure or money back. Send 50 cents for trial package.

Newest, finest largest, and most central store. Prices the very lowest. Come and see.

Pacific Incubator Co.
707 So. Spring St.
Los Angeles

ORPINGTON RESERVATION

ROSS & TATE,
ALTADENA, CAL.

BUFF, WHITE, BLACK
ORPINGTONS

EGGS—PRIZE WINNING OR BREEDING STOCK
One bird or Fifty—One setting or 1000 eggs that hatch, at prices in proportion to quality. Orders booked now for delivery.

We want you to see our place and birds, and will give you a reduction on purchases if you will call in person, but if you can't come send for our catalog. Worth money, but free. 1 blk. north, 2 east of P. O. P. O. box 125. Altadena, Cal.

MRS. A. BASLEY

Is now Editor of the Poultry Paper

THE LIVE STOCK TRIBUNE

The pioneer poultry publication of the west, the beginners standard, 36 to 50 pages, illustrated. Price reduced to 50c per year or 3 years for \$1. Sample copy free.

Mrs. Basley would like to hear from her old friends, address

301 Copp Bldg., S. Broadway,
Los Angeles.

Spargur's Trap-Nested White Leghorns

Laying Pullets six and seven months old from above hens, at \$15.00 per dozen. Also I. R. Ducks and Drakes at \$9.00 per dozen.

H. G. Spargur, Soquel, Cal.

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Your Poultry Require

LILLY'S BEST POULTRY TONIC

Strengthens the digestive organs, tones up the system, stimulates growth, purifies the blood and greatly increases the production of eggs.

After trial of your Poultry Tonic my egg yield doubled in number, and am so well pleased that I have ordered my grocer to keep it on hand always for me. I deem it indispensable. GEO. VENABLE SMITH,

Manager Orpington Poultry Yards, Port Angeles, Wn.
CHAS. H. LILLY CO.
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Sold by Dealers

BARRED ROCKS

EXCLUSIVELY

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First prizes San Jose '06, and State Fair '07
Fine youngsters at reasonable rates. Good older stock cheap to make room. Full description of stock and price list mailed free on application.

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WHITE WYANDOTTES THAT WIN AND LAY

\$15.00 and Up Per Dozen

Mammoth Bronze Turkeys Reasonable.
Lakenvelders, per pair, \$8.00; trio, \$10.00.

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WHITE AND BUFF WYANDOTTES

And Golden Sebright Bantams, prize winners
Stock and Eggs in season
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WHITE WYANDOTTES EXCLUSIVELY

Good, White, Typical Birds. Stock and Eggs For Sale.

W. A. SEYMOUR

470 No. Beaudry Ave. Los Angeles, Cal.

White Wyandottes (Hubbard Stock)

Egg, \$2.00 per setting, \$10.00 per hundred.
March Cockerels For Sale

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SHADE'S RHODE ISLAND REDS

The World's best layers. Our folder for '07 is ready. Drop a postal to

J. W. Shade San Bernardino, Cal.

outside. Not long ago I heard a man say that he was going to give up a certain breed he had. I asked him "Why?" Well, his answer was something like this: "I have bred this variety four years and each year they get smaller. That is why."

Summary: Avoid crowding. Provide shade, green food and plenty of water. Remember that lice are your worst enemy and cut down your profits. Feed the fowls all they will eat. Do not forget to introduce new blood into your flock each year as inbreeding is dangerous.—H. L. Cook, American Poultry Journal.

AROUND THE YARDS.

First quality means "top prices."

* * *

Make a reputation for your ranch.

* * *

Look after the small things now and save trouble later.

* * *

Indian Games and Orpington crosses are good for capons.

* * *

The field of poultry culture is a good one if you are made of the right stuff.

* * *

If you are thinking of embarking in the tempestuous sea of poultry culture, think twice before you start, and then only go in knee deep.

* * *

Cold rains will soon begin, and unless we have arranged for our fowls and provided comfortable houses, we are sure to have trouble with colds, and possibly roup.

* * *

It is presumed that every place has been thoroughly cleaned and white-washed before this; if not, there is no time to lose.

* * *

Look after all leaks in the roof and stop them at once. Bank up the ground around the house and grade up the walks, so that when winter weather comes the hens will not be compelled to wade in mud to get to the house.

* * *

Success in the poultry business is not in making no mistakes, for the best of us make mistakes, but in not making the same mistakes over and over again.

* * *

Santa Ana poultry breeders have organized a poultry association and will hold a poultry show November 26-27-28.

* * *

Various Questions.

Kindly answer the appended questions, and greatly oblige a reader, who, before he began to read the Cultivator last May, thought he knew something about poultry, and the profitable management of the business.

On our Eastern farm the poultry (where I was born and raised) received but scant attention, outside of the first few months of summer, when the hatching business was in full blast. But I observe by reading and talking with those who know, that the "let them take care of themselves" method is obsolete in this "neck of the woods." Now here are my questions:

Can I successfully run a ten-cow dairy on twenty acres of ground, doing my own work, and give sufficient attention to five hundred or a thousand layers to justify successful results?

Are hen houses with the front or south side open, justifiable in this climate?

Can coal tar, as an inside painting, be successfully used against vermin, and would it be detrimental to the health of the hens?

I intend to try a laying breed, and also a meat breed; White Leghorns and Buff Orpingtons are my preference, is that good judgment?

Is there a good market here for what is known in the East as "Roasters." Usually caponized roosters; al-

lowed to merely mature and the speedily fattened. Are the Buff Orpingtons as good a chicken for the purpose as the Rocks?

Can I realize a better price in dressing my bird, than by taking the prices, and can I get as fair a treatment from the commission men, shipping direct to them?

Give the address of the State Poultry Farm, also State Dairy Farm?

The Cultivator is indispensable to any one engaged in tillage of the soil, in any of its numerous phases.—Joseph D. Wiggins, Laton.

See leading article in this department.

* * *

Broiler Feed.

How large is a broiler, in chickens and guineas?

What would feed Black Minorcas for eggs, that have free range. They have milk, all they will eat, green alfalfa, wild sunflower seeds and what bugs they can find on forty acres. They are fed at night; corn and some meat scraps from table; have oyster shells.

I have about 100 young pullets which I wish to make lay. F. E. E.

The size of broilers is given in the leading article of this issue.

Your pullets ought to lay on the ration they are getting, if they don't lay soon, you might get a good food and feed dry in hoppers, giving them free range on alfalfa also.

* * *

Moulting Food.

Should the feed of laying hens be the same while moulting as while laying. If to be changed, what is best when moulting? T. G. E. Gray.

Hens that are moulting should be fed a good moulting food, we don't mean a stimulant, but a well balanced ration. These foods can be bought, as a rule, cheaper than can be mixed at home.

* * *

Ticks.

Please tell me how I may get rid of ticks in the hen houses. They hide in cracks in daytime and come out at night to suck blood from the fowls.—A. L. B., Phoenix.

Spray with a good liquid lice killer, taking care to get it well into cracks and places where ticks hide. After about a week, repeat the operation to kill any that might have escaped.

* * *

Yards.

I have a piece of ground 40x200, and want to keep a few chickens. Would like to divide in 5 yards—(40x40 each.) How many can I keep in each yard and what the house?—Easterner.

We would keep 25 hens in a yard 40x40; and a house should be 6x8 ft. We know of a ranch where the yards are 25x48 feet, and houses are 4x6 ft. in these yards are 20 hens, which seem to do well, but we believe the house should be larger than 4x6 ft. for 20 adult birds, especially of the larger birds.

IT BROKE.

"Freddy, you shouldn't laugh out loud in the schoolroom," exclaimed the teacher.

"I didn't mean to do it," apologized Freddy. "I was smiling, when all of a sudden the smile busted."—Harp-er's Weekly.

BIG AS CART WHEELS.

I herewith enclose P. O. order for a renewal of my subscription to the Cultivator. Dollars are as big as cart wheels, but will have to have the Cultivator just the same.—Ransom Jonah, Watsonville.

ON TIME.

Better lose a minute being ahead of time than to lose a day by being behind time.

Farmers' Wives and Phones

The saying "that the hand that rocks the cradle, rules the world," is no better exemplified than in the general use the telephone is receiving by farmers' wives all over the country.

The farmer himself uses a telephone for business purposes almost entirely, but his industrious spouse combines both business and pleasure. A telephone brings the city or town to her very door, yet she can enjoy all the comforts of farm life.

Besides ordering her groceries—telling the meat man to stop—keeping posted on the latest market price of eggs and butter—she makes friends and neighbors with farmers' wives miles away. The telephone keeps her from getting lonely when the family are away—acts as a companion and an ever ready help in case of need. The practical ways in which the farmers' wives use a telephone are numberless.

In speaking of the telephones in the rural districts, an agent for a "Farmers' Telephone" company said: "It's the farmer's wife every time who decided whether an instrument shall go in or not and I have to make my arguments accordingly. If she says no, that settles it. The farmer will have nothing more to do with me unless she changes her mind, which she generally does when her neighbor, Mrs. Smith, a mile or so down the road, tells her what 'solid comfort' a telephone is.

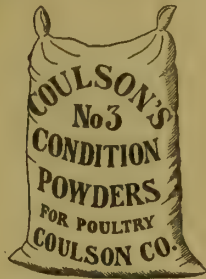
"The uses to which a woman can put a telephone are simply surprising. One woman went so far as to hold the regular business meeting of a sewing society over the 'phone. Another had a friend give directions over the 'phone about a crochet pattern for a tidy. She had her son hold the receiver to her ear while she crocheted according to directions. Of course, some of the other subscribers got rather hot about it until the operator at the switchboard had to 'butt in' and call off the tidy lesson."

"But one case where the farmer put in a 'phone in spite of his wife, was as follows: He argued and argued, but she was obdurate. Finally he said: 'He'll just have to put it in the hen house, for when we married we agreed that he was to have charge of everything outdoors and I of everything indoors. I ain't going to have a telephone always ringing in my house. Henry says the telephone will help him in his business and if that is so he can have it in the hen house and attend to it himself. So the bell jangled merrily amid the crows of the roosters and he cackle of the hens for a month, when it was moved into the barn. From there it soon made a jump to the kitchen, where it was almost at the good wife's elbow. She said pologetically that its ring was 'so ort o' cheerful that she hated to have it wasted on the cows and horses in the barn."

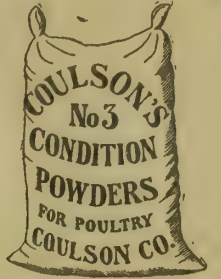
A grass widow shouldn't wear mourning,
Her husband's forgotten, not gone,
The appropriate thing for grass widows this spring,
Is a cute little frock of green lawn.—Ex.

PRODIGALITY.

Aubrey—"Look here, old chap, let me give you a piece of my mind."
Percival—"Won't it be robbing you, deah boy?"—Sketch.



Coulson's No. 3



Condition Powder For POULTRY

If you are not already using COULSON'S NO. 3 CONDITION POWDER, we would suggest that now is the time of year when your hens most need a tonic, to get them into condition after a heavy laying season. If you neglect them now, and they go through the molt in poor condition, it is likely to take them a long time to start laying again, with consequent loss to your pocket.

WE CLAIM COULSON'S No. 3 Condition Powder

will put the flock in good, vigorous condition, not only enabling them to withstand any possible infection or disease, but enabling them to go through the molt rapidly, and to commence laying again before the cold weather sets in. We practice what we preach, by giving our own hens a little of Coulson's No. 3 Condition Powder three times a week, and although they are beginning to molt heavily, their combs are as bright and red as at the beginning of the season. You will find that it does the same with yours if you give it a fair trial. It will not only do this, but will enable the hens to digest a much larger proportion of their food and thus save your feed bill considerably. Therefore, if you wish to make money this fall and winter, inquire right now at your dealers for Coulson's No. 3 Condition Powder, and see that he keeps a stock so that you have it when you want. Where the local dealer does not keep it, we will make you a SPECIAL OFFER to deliver it freight prepaid to any Railroad Station in California, at the following prices:

10-lb Package, \$1.50; 25-lb Package \$3.25;
50-lb Package, \$6; 100-lb Package, \$11.

Prices prepaid to R. R. Stations in Oregon, Washington or Nevada will be: \$1.75, \$3.50, \$6.40, \$11.50 respectively.

GET SOME NOW AND INSURE YOURSELF
LOTS OF EGGS WHEN PRICES ARE HIGH.

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**Coulson Poultry
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55 HEAD Registered Jersey Cattle
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On the Peabody-Wall Ranch at
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Cars leave Los Angeles every 50 minutes.

FRIDAY, NOV. 1st.
At 10 o'clock a. m.

33 Head Fine Registered Jersey Cows,
fresh and coming fresh, large fine cattle,
rich milkers, young and good condition.
This stock comes from the best FOGIS
strains and is an exceptional fine lot of
Jersey stock. 10 Head Fine Registered
Jersey Yearling Heifers. 3 Head Fine
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1 Fine Registered Jersey Yearling Bull.
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50 Head Registered Berkshire Hogs,
Consisting of Sows, Shoats and Boars.

Pedigrees and Registration Papers will
be furnished buyers of all Cattle and
Hogs.

Five Head Young Ranch Horses, all
broken, weighing 1200 pounds. Two well
matched spans.

Implements: Mowers, Rakes, Wagons,
Harness, Cultivators, Plows, Grain Drill,
Beet Drill, Corn Planters, etc.

Owner is making a genuine closing-out
sale and every animal will positively be
sold to the highest bidder without limit
or reserve.

Terms: Six months' time be given
with note and approved security. Lib-
eral discount for cash.

Free Lunch At Noon.

GEO. A. OTIS, Owner.

RHOADES & RHOADES, Aucrs.

Office 830-832 S. Main St., Los Angeles.

The opening of the Yakima Indian
reservation at North Yakima, Wash-
ington, which many have expected to
be accomplished soon is now claimed
to be some distance in the future.
These lands are said to be extremely
valuable for farming purposes.

Hop growers near Eugene, Oregon,
maintain that hop dealers' statistics
are inaccurate and given out for the
purpose of bearing the market.

The highest priced car of pears ever
sold in New York was from Medford,
Oregon, which grossed \$4,622.80.

Garfield county, Washington, farm-
ers are sowing fall wheat.

Some Texas mohair-producers sold
their fall clip at 35 cents per pound.



CONGO THE NEVER-LEAK ROOFING

STOP THAT LEAK

THE rain will damage
the contents of the
building and ruin the build-
ing itself.

A leak in the roof, no
matter how small, is a leak
in your purse.

The best way to make
repairs is to cover the old
roof with a new roof of
Congo.

Congo is easily laid over
shingles, or tin, or other
ready roofings.

Figure up the cost and you will be aston-
ished how cheaply and easily you can get a
tight, durable, weatherproof Congo roof.
Nails and cement furnished free.

Send to us for Free Sample.

Buchanan-Foster Co
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Chicago and San Francisco

IMPOSSIBLE.

Cholly—"Do you think it would be
foolish for me to marry a girl who
was my intellectual inferior?"

Dolly—"More than foolish—impos-
sible."—Cleveland Leader.

The Largest and Finest Stock of Furniture
in the West

Satisfaction

Is a Very Essential Feature
When You Are Buying Furniture

Do not buy furniture because it is offered
on special sale at apparent great savings.
If the reductions are genuine the quality is
usually inferior and seldom gives satisfac-
tion. Consider carefully the quality, style
and making. It is the long use that tells
the story. Furniture is not bought for one
or two days' use. It is to be associated with
your home for years and if it is not well
made, good substantial furniture it will
never give satisfaction.

Prompt delivery in perfect condition.



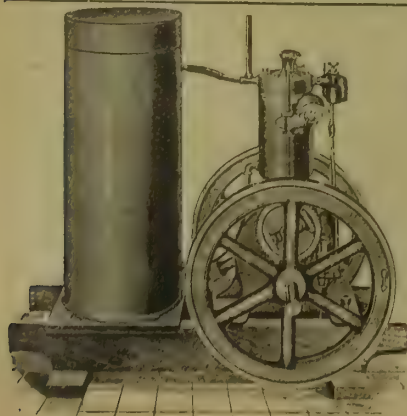
**Pease Bros.
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TELEPHONES
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STOVER

We have moved to our new quarters,
352-354 So. Los Angeles St. More
room, better light, better position to
handle our trade, centrally located.
Call or write.

Livingston & Lee

352-354 So. Los Angeles St., Los Angeles, Cal.

Queries and Replies

Questions to be answered in this department should be received at this office
one week before reply is expected. Write plainly on one side of the paper and
sign full name and address. Unsigned communications receive no attention.—
Ed.

Seed Beds.

Will you please inform me in your
paper when and how to plant peach,
apricot and cherry pits, also eucalyp-
tus and grapefruit seeds?

I hope you will pardon me for giv-
ing you so much trouble, but that is
the penalty you have to pay for giv-
ing so much valuable information in
your paper.—A. M. S., Exeter.

The Cultivator expects just that
kind of "trouble" and is glad to
lend a hand.

About the first of December put
your peach pits down on a burlap,
making a layer of pits about three
deep. Over this place another piece
of burlap and cover this with about
four inches of sand which must be
kept wet. The bed should be in a
well drained place and the first or
lower burlap should have a layer of
sand under it. This will prevent
the seed from getting water-soaked,
which would rot them. As the
seeds crack open, pick them out and
plant them in the nursery rows.

Treat apricot and cherry pits the
same, only do not put them down to
sprout till about the last of March
or the middle of April. They will
crack open sooner on account of hav-
ing a thinner shell.

Plant eucalyptus seed in boxes of
rich garden loam. Press it down in
the boxes and settle with water.
When dry enough, even it on top,
sprinkle the seeds on this, press the
seed into the soil with a flat board
and cover with a quarter of an inch
of clean river sand. Sprinkle every
day when it does not rain, till the
seeds are up when withhold the
water; only keep the soil moist
enough to keep the young plants
thrifty. This means a moderately
moist soil. Too much moisture will
cause many of them to rot. When
the young plants get to be three
inches high, transplant into flats.

In planting pomelo seed, select
soil that has no gravel or hard
lumps; make a trench 18 inches
deep, fill up the bottom foot with
earth and well rotted stable manure
well mixed and fill the top six inches
with rich, sandy loam. Plant the
seeds in this in rows about three
inches apart, placing the seeds in the
rows as close as possible and cover
with an inch of clear sand. Keep
moist, but do not wash the sand off
in patches. It is best to make
grooves in the soil to receive the
seeds and thus bring them even with
the surface of the ground. The bed
should be settled with water and
evened with a straight edge before
planting the seeds. This prevents
puddles when irrigating. The seed
bed should be shaded so as to keep
about half of the sunlight out. This
is done by placing a lath cover above
the bed on the sunny sides, making
the cracks as wide as the lath.—J.
W. M.

Cornichon Grapes.

What is the relative value of the
Black Cornichon grape to other ship-
ping table grapes where they do
well? Why are not more planted?
What is the objection, if any? Do
you recommend them? What kind
of soil do they do best on; are they
liked in Eastern markets?—E. J.
Thompson, Fresno.

Purple Cornichon is one of the b
shipping grapes, and sells well in
Eastern markets. It is one of
best carrying grapes known.
relative value with other grapes
depends on how the others arrive
the markets. Cornichon always
arrive in good shape when well pack
and handled properly.

Cornichon likes a heavy sub
hence does best on slightly
soils. It should pay the best in
late district as it is one of the late
grapes and does not crack wh
rained on.—J. W. M.

Grafting Old Vines.

Will some one please state in t
Cultivator how and when is the be
time to graft Muscats on to the
grape vines? I have a few
vines among my Muscats, to
which I wish to graft the Musc
A Subscriber, Parlier.

Graft your old vines about t
middle of March. Cut the stock
with a saw about an inch below t
surface of the ground. Split t
crown and insert two scions, one
each side of the stump. Give ea
scion two buds, leaving the low
one about opposite the top of t
stump. Cover the entire stump ar
scions with soil by making a moun
over the stump. Do not cut t
stump lower than indicated as
lower cut will bring the suckers th
are sure to come, so far below t
surface that it will be a difficult
to keep them out.

If the soil shows that the vines
bleed much, break the dry crus
with a rake in case of absence o
rains about the time the vines star
to grow. This prevents a crooked
and undesirable growth.—J. W. M.

SIDE HILL PLOWS.

The Knapp side-hill plow is one
of the old reliable California-made
plows. The factory was started in
Half-Moon Bay some thirty years
ago by H. G. Knapp, and the stan-
dard high standard has been kept up
the manufacturing of it during these
many years. They have just move
to San Jose. They have enlarged
their plant and are prepared to
handle the growing demands much
better than ever before. Their dis-
play at the State Fair at Sacramento
attracted much attention and car-
ried off the medals.

They also manufacture large
grading plows.

It would be well to have their
catalogue and price list. A post-
card will secure it if you mention
the Cultivator.

THE PALMA TROPHY WINNERS.

The greatest Rifle Match held since
1903 was shot at Ottawa, Canada, on
September 7th. The American Team
consisting of eight shooters, won the
Palma International Trophy Match,
which was open to the military teams
of the world, and was contested by the
best military shots from England,
Canada, Australia and the United
States. The winning score of the
American team was 1712. The other
teams ranked as follows: Canada,
1671; Australia, 1663; Great Britain,
1580.

The Union Metallic Cartridge Com-
pany by furnishing superior U. M. C.
cartridges gave to the finest team
which ever represented America, a de-
cided and winning advantage as was
admitted by the press of the United
States and Canada.

General Agriculture

USE OF THE DIVINING ROD.

NUMEROUS devices are used throughout this country for detecting the presence of underground water—devices ranging in complexity from the forked branch of witchhazel, peach, or other wood, to more or less elaborate mechanical or electrical contrivances. Many of the operators of these devices, especially those that use the home-cut forked branch, are perfectly honest in the belief that the working of the rod is influenced by agencies—usually regarded as electric currents following underground streams of water—that are entirely independent of their own ideas, and many uneducated people have implicit faith in their ability to locate underground water in this way. In experiments with a rod of this type, one of the geologists of the United States Geological Survey found that at points it turned downward independently of his will, but more complete tests showed that the downward turning resulted from slight changes in the inclination of his body, the effects of which were communicated through the arms and wrists to the rod. No movement of the rod from causes outside the body could be detected, and it soon became obvious that the view held by other men of science is correct—that the operation of the “divining rod” is generally due to unconscious movements of the body of the muscles of the hand. The experiments made show that these movements happen most frequently in places where the operator's experience has led him to believe that water may be found. The uselessness of the divining rod is indicated by the facts that the rod may be worked at will by the operator, that he fails to detect long currents of water running in tunnels and other channels that afford no surface indications of water, and that his locations in limestone regions where water flows in well-defined channels are rarely more successful than those dependent on mere guesses. In fact its operators are successful

only in regions in which ground water occurs in a definite sheet in porous material or in more or less clayey deposits, such as the pebbly clay or till in which, although a few failures occur, wells would get water anywhere.

Ground water occurs under certain definite conditions, and as in humid regions a stream may be predicted wherever a valley is known, so one familiar with rocks and ground water conditions may predict places where ground water can be found. No appliance, either electrical or mechanical, has yet been successfully used for detecting water in places where plain common sense or mere guessing would not have shown its presence just as well. The only advantage of employing a “water-witch” as the operator of the divining rod is sometimes called, is that skilled services are obtained, most men so employed being keener and better observers of the occurrence and movements of ground water than the average person.

FARMERS AND HIGH PRICES.

There is a wonderful deal in being ready for a good thing when it comes. Sometimes a farmer misses the high price of the season because his cattle, sheep or hogs were not in market trim at the right moment.

This might have been a fault in the stock, but more likely it was a fault in the farmer, because there are well-established ideas and principles at the bottom of the feeding business which point a sure way to hasten and perfect all animal growth and development.

Ask a successful breeder of cattle of a man who turns off his fat droves once or twice a year, and he will tell you, “my dear sir, it's all in the tonic—you can't fatten steers, hogs, sheep, or fit a horse for the show ring or for sale without using every day the proper food tonic,” and this man's testimony would be just what thousands upon thousands of others would say if it were possible to ask them the same question.

It is a well-known fact by every man who owns a domestic animal, that heavy feeding is likely to upset the di-

gestion and make the animal “go back.” Why this is so is also well-known—no animal stomach is sufficiently strong to stand the continual stuffing that is necessary to make a desired weight in a certain time. Hence, the feeder is constantly facing a possibility of loss even before he is ready to reap his gain.

Just here a knowledge of the “tonic idea” comes to help the feeder out. It tells him that a “food tonic” given regularly (at small cost) to the steer, cow, horse, hog or sheep which is being fitted for market, will remove the possibility of digestive disorder and by increasing assimilation actually shorten the time necessary to fatten the animal. Every day gained in this way is, of course, so much on the profit side of the account and well worth considering when the final balance is struck.

These things being so, it is evidently sound business to use the “food tonic.” Thousands are doing it, as the increased demand for it proves.

There is abundant evidence of the value of this “food tonic” idea in the actual practice of interested parties, but an added force is given by the unqualified indorsement of such men as Professors Winslow, Quitman and Finley Dun—men known everywhere as authorities on such subjects. They tell us that bitter tonics are necessary to strengthen digestion, that iron is the best known blood builder, that ni-

trates cleanse the system of poisonous matter, and these are the ingredients which enter into the proper “food tonic.”

Using a “food tonic,” then, becomes a practical farm economy—one of the steps which lead to satisfactory profit.

That it gives great returns is proved by well-attested experiments—in one case the outlay for the “food tonic” being returned with a profit of 235 per cent. In view of this fact we are led to this conclusion—no man owning live stock, farmer, feeder or breeder, is rich enough to leave the “food tonic” idea out of his calculation when business possibilities are considered.

ENJOYS IT VERY MUCH.

I enjoy reading the Cultivator very much and get a great amount of information from it.—R. L. Price., Sanger.

Public Sale of Shorthorn Cattle

Thursday, Nov. 14, 1907.

Sale Begins Promptly at 12:30 P. M.

T. B. Gibson and H. P. Eakle, Jr., will sell at public auction 76 head of Short-Horns on the farm of Mrs. W. B. Gibson, one mile from depot. This offering consists of 39 bulls, including the pure “Scotch” bull Saturn, 37 cows and heifers. In this offering is the get of Noble Knight, Saturn, Brampton Hero, Senator Lad and King Spicy. Everything will be offered in good breeding condition, and will prove useful to the buyer. Remember the date and come to the sale. Write for catalogue, mentioning this paper.

H. P. Eakle, Jr., T. B. Gibson, Woodland, Cal.
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To St. Louis

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To St. Paul

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All Hallows Eve



HALLOWEEN.

The breezes are rippling the river,
An moonbeams are ghostly and white;
How strangely the maple boughs quiver,
How eerie the sounds of the night!
I wonder what mystery thickens,
What terror environs the scene;
Or is it but fancy that quickens,
Since this is the weird Hallowe'en.

A farmhouse I see in the distance,
Gray-gabled, half lost in the shade.
I watch with no thought of resistance,
For from it there hastens a maid;
'Twas Cupid who guided, I'm certain,
My lassie and I, and between
Us lifted the future's dark curtain
So kindly this weird Hallowe'en.
—M.

THE evening preceeding All Hallows or All Saints' Day, which is November 1, is called All Hallows eve, or more commonly Halloween; also sometimes "nut crack night," "ghosts' night," etc. This year it, Halloween, occurs next Thursday eve, and that fun will be doing amongst young people goes without saying. That patience will be required of older folks also, goes without saying.

To the older folks we say be patient.

To the youngsters we say be considerate.

By the way, if there are any "old folks" around on Halloween, let them get busy and be young again. Old folks who are sedate need a shaking up about once a year, and Halloween is a good time to renew youth. Get out and frolic with witches, habgoblins and fairies.

Turn in and have fun. Genuine, hearty, wholesome fun. But don't destroy and don't do any thing that will give the slightest unhappiness, for the fun you might get. For the unhappiness you bring others is sure to react on you.

There are thousands of jolly ways of having fun without annoying others. Study them out for this year's celebration of Halloween.

Instead of the wild lark up and down the streets, gather in the home and on the lawn and have the time of your life.

Here are some suggestions:

Among the quaint customs and superstitions handed down to us is the belief that spirits and witches are abroad on Halloween, representing both the powers of good and evil. The spirits are invoked in the reading of future destinies and maidens seek to find out the appearance and character of the men they are going to marry, by various tests. One is to arrange three bowls in a row; in one place clear water, in another coffee, and in the third tea; dip into them blindfolded; the clear water indicates a young husband or wife; the coffee a widower or widow, and the tea a bachelor or spinster.

Another way to determine the important question is to pare an apple, turn around three times, repeating this doggerel:

St. Simon and St. Jude, on you I must intrude,
For by this paring I discover the first letter of my lover.

The paring is then tossed over the

left shoulder, forming some sort of letter which is interpreted accordingly.

Or here is another verse some prefer:

Apple, I pare and swing to know
Who I soon will marry;
From my hand I now thee throw,
Mystic letter carry.

Fill a hulled out half pumpkin with nuts, having dyed or painted one of them red and concealed it among them, serve, requesting each guest to take a handful; when all have been removed see who has gotten the red one, which signifies:

Such good luck will follow you all the year,
You'll be so happy you'll never shed a tear.

Take two brown apple seeds, name them and stick one on each cheek, repeat:

Pippin, pippin, I stick thee there,
That what is true thou may'st declare.

the one that falls off will prove unfaithful.

Enter the garden unperceived, move around in a circle three times, scattering hemp seed with one hand and dragging a hoe with the other, repeating, "Hemp seed I sow, Hemp seed I hoe, and he that is my true love come after me and mow." Glance over the left shoulder shows the future husband.

From Scotland comes the test known as the three luggies. Three dishes or luggies are placed in a row. One contains clear water, another dirty water and one is empty. Each player is blindfolded and in turn dips into one of the luggies, the position of which is shifted before each trial. The clear water means a happy marriage; the foul, an unhappy one, while the empty dish signifies that the player will remain single. Burns thus sings of this custom:

In order on the clean hearthstone
The luggies three are ranged,
And every time great care is ta'n
To see them duly changed;
Auld Uncle John, wha wedlock's joys
Sin Mar's year did desire,
Because he gat the toom dish thrice,
He heaved them on fire
In wrath that night.

Another custom of his country to which Burns refers consists in wetting a shirt sleeve on Halloween, then hanging it before the fire and lying in bed, watching it till midnight, when the maiden who is brave enough to test the charm is assured that the apparition of her husband to be will come in and turn the sleeve.

The last Hallowe'en I was waukin'
My droukit sark-sleeve, as ye ken;
His likeness came up the house staukin',
And the very gray breeks o' Jam Glen!

Suspend in a doorway an orange, an apple and a doughnut and a ball of cotton. Blindfold the contestants and let them try to fasten their teeth in one of the objects. The one biting the orange will be rich, the apple, happy; the doughnut, work hard, and the ball of cotton be condemned to a life of single blessedness.

Fortune telling is in order. Let the Gypsy hang up a sign like this:

"To beau and belle I fortunes tell,
Come round the gypsy—she'll use you well;
Come maidens dear, and never fear
A little who'some truth to hear."

The telling of fortunes from the grounds and leaves left in the bot-

Concluded on Page 407



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that it pays to keep stock, grain, hay, tools, vehicles and implements under a good, tight roof.

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The Personal Neatness Club

WELL, our club seems to have been crowded out for the past few weeks, but here comes a number of inquiries and friends with hints so that some of the hints must be laid over till next or some later issue. We hope interest will increase that space will be demanded each week, a little later.

Neat Room.

The first comer has an inquiry on the most pertinent subject. It is one which I hope a missionary spirit will prompt some one to send in suggestions.

"Won't some helpful mother who has succeeded in encouraging habits of neatness in her daughter, tell me how to get my daughter to keep a tidier and more attractive room?"—Perplexed Mother.

I hope some one will send in some hints along this line. But as the first hint for a starter. May I ask: Has the girl been given encouragement to start with. That is, is she given anything for a foundation, such as closet hooks, bureau or other drawers for neatly storing her things? Has she set a good example in other parts of the house? Is she scolded because of her laxness, or is she encouraged with "let's see if we can't make some changes for the better in your room and then try and keep it tidier?"

These questions are not meant as an arraignment of Perplexed Mother, for that probably would not be deserved. But some mothers are not tactful in encouraging. They too often nag. That accomplishes little; sometimes worse than nothing.

But if father or brother will make a shirtwaist box with tray, which may be a lounge or window seat when the lid is down, for storing some of the waists and skirts, then the room neatly arranged once, the attractive appearance may appeal to the awakened appreciation of order and a little expression of admiration for the new condition fix a habit for the better.

Meantime, won't some mother who has tried, send us more hints?

School Dresses.

Along somewhat the same line, M. A. Y. sends in hints regarding dresses of the school girl. I agree with her. In general, we may say that school girls are given altogether too expensive and showy clothing. The tendency is toward too much display. Some of the poorer girls are driven from school by the fact that they are unable to appear as they would like. This is unfortunate. It is serious in some sections.

Let the suggestions of M. A. Y. are regarded, for we must keep our own children where they need not be ashamed of their appearance. Keep in mind the distinction which the water makes between "showiness" and "neatly and becomingly."

Dressing the School Girl.

The desire to be neatly and becomingly dressed is praiseworthy, rather than to be condemned, and it respects the girl's self respect to know they are as well dressed as their companions, and they cannot keep feeling humiliated if their dresses are faded, shabby or outgrown. Everything like showiness should be avoided in their school dresses, but they should be of a becoming color and made of stylishly and of materials that will

stand usage. Such material that can be cleaned or washed when soiled, are the most appropriate for school wear.

The majority of women wish to use everything to the best advantage and by examining the contents of the closets and wardrobe, you may find partly worn dress skirts or other articles of wearing apparel that can be made into serviceable school dresses, and children seldom object to wearing made-over clothes if they are made up pretty and stylish.

One pretty little dress was made from an old white wollen serge suit, but the pieces were first washed clean and then colored a rich, dark green with diamond dye for wool. Some faded pink challie was colored a dark shade of red and fashioned into another pretty dress.

These dresses were made to be worn with a guimpe, which is the best way to make school dresses, as the sleeves soon become soiled, and the separate waists can easily be laundered, and several different kinds can be worn with the same dress.

Do not be careless about the fit of children's dresses. A dress of handsome material may be ruined if the waist is too long or the skirt too short, while an old one made over may be quite stylish, because the mother has taken pains with her work. Give the children pretty clothes to wear, because many a child suffers from the jeers of play fellows when they must wear outgrown and faded garments to school, and a plain garment can be made a joy to their eyes with a little bright trimming and braid, velvet and ribbon can all be freshened by cleaning and often a dainty little garment can be made without any present outlay of money.—M. A. Y.

The next two hints are not exactly of a personal nature, save as the home is an expression of our personality, but they are too good to lose or to miss having in this department. I've most a notion to tell you who sent them in. Pretty nearly every one in California knows her. She has written for the Cultivator a long time, and most interestingly, too. By the way, she knows pretty nearly everything, so if any questions come which none of the rest can answer, we will refer them to her. She will have something for the next Club department.

The M. E. S. stands for Minna Eshelman Sherman and she lives on Minnewawa ranch at Fresno. May she come often.

Ink on Carpet.

If the ink bottle is overturned on the carpet, pour cold water on it and then bring down a large pitcher of water and old cloths and a bucket to wring them out into. Pour on the water, sop it up, and repeat this until all the ink has disappeared. The secret of getting ink stains out is never to let it dry.

Blackening a Stove.

Linseed oil is a good agent in the house, mixed with vinegar half and half and applied with a cloth, it blackens stoves. The ordinary stove polish is apt to make black spots on the aprons and sleeves when water splashes it on to the clothes. This is troublesome as it requires to be removed before sending to the ordinary laundry. The black can be removed by using lard and washing it out before the laundryman gets the clothes.

Furniture Polishes.

Spirits of turpentine added to linseed oil, five parts of turpentine to one of oil, cleans the carved work of furniture nicely.

Using linseed oil and then spirits of ammonia will take out the marks left on the table by hot dishes. Use them alternately, rubbing until the marks disappear.—M. E. S.

For Butchering Time and All the Time

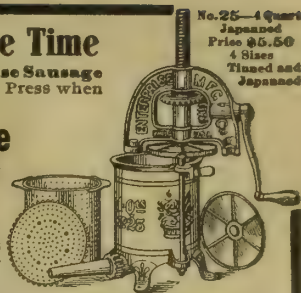
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WANTED—A NURSERYMAN WHO HAS had experience in fruit tree nurseries and understands budding and grafting. A good opening for a young, energetic man who is anxious to advance on his merits. Also a young man who is familiar with ornamental plants and greenhouse works. Address, BOX 2697, FRESNO, CAL.

TREES.

20,000 SEEDLING AND GRAFTED WALNUT trees for spring planting from selected seeds and grafts. A fine stock of apricots, peaches and plums. A. R. MARSHALL, nurseryman, Olive, Cal.

EUCALYPTUS TREES—ORDER NOW AND have your choice of any variety at any time, of any size. A. L. HURTT, San Bernardino, Cal.

POULTRY FOODS.

GRANULATED MILK—THE SURE FOOD for growth, fertility and egg production; excels all others. HENRY ALBER, 315 S. Main, Los Angeles.

LEES' LICE KILLER—THE GUARANTEED liquid lice killer, always the same and always gives satisfaction. HENRY ALBER, 315 S. Main, Los Angeles.

PIGEONS.

FOR SALE—HOMERS—WE HAVE AN option on about 300 pair, mostly Blue Bars and Blue Checks; fine, healthy, vigorous birds; will sell at a very low price. Homer squabs are bringing \$3 dozen. Here is a good chance to make money. KLONINGER BROS. Co., 838 S. Main, Los Angeles.

MALESE HEN PIGEONS, ALL COLORS. Runts, blue, silver, red, yellow. Write us your wants; correspondence a pleasure; satisfaction guaranteed. W. H. ELLIOT, 728 North Ave. 66, Los Angeles, Cal.

POULTRY

WHITE PLYMOUTH ROCKS EXCLUSIVELY. The largest flock of prize winning birds in the West. At the late Los Angeles show, 1907, we won twenty-three out of a possible twenty-five prizes. We offer extra bargains in our this year's breeders. Will sell to suit purchaser. Eggs \$2.50 per 15; \$10 per 100. A. J. LITTLE, Monrovia, Cal.

FOR SALE—BANTAMS—SOME GOLDEN Sebright Bantams that are choice birds, at low prices to make room; and a few good Buff Cochins Bantams cheap. Ranch on Clarence St., one mile north of Masonic Home. M. E. DILLINGHAM, San Gabriel, Cal.

EGGS FOR HATCHING.

EGGS FROM MY PRIZE WINNING Barred Rocks; won all special and 13 regular prizes on Barred Rocks at late Los Angeles show. Eggs from best pens, \$2 and \$3 per 15; \$10 per 100. Also furnish any quantity. Also offer extra bargains in breeding stock. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

BARRED PLYMOUTH ROCKS, OCEAN Blue Strain. All our breeders for sale without reserve. Eggs, one-half price. Now is the time to buy your breeders for next year. We have lots of good ones. Write today. We live at Moneta, Cal. Take Redondo car, 2nd and Spring Sts., via Gardena. Get off at Illinois St. right on ranch. MR. and MRS. D. T. WIELAND.

LAND.

JUBILEE POULTRY FARM—80 ACRES, well improved; 1000 pullets and hens; 2 horses, cow, farming implements, vehicles, 9 large Jubilee incubators and brooders; good roads, good markets; fine for vegetables, berries, etc. Telephone in house; hot and cold water to bath; water piped to all parts of the place; 6000-gallon tank; 4-H. P. Fairbanks-Morse engine, which runs pumping plant, vegetable cutter, shell and grain crusher, washing machine, wringer, churn, grindstone. Plenty good water. \$500 takes everything. Easy terms, or will trade for 10, 15, 20 acres improved land in Riverside Co.; close to Riverside preferred. WM. MANTZ, Santa Maria, Cal.

FRUIT FARMS NEAR THRIVING CITY now yielding \$200 to \$1000 net per acre. LEWISTON-CLARKSTON Idaho Wash.

LOW ALTITUDE—Irrigated lands on easy terms in this long established fruit colony. Water piped to every tract. Just write for pamphlet 119, or send 15c for panoramic photograph, 8x35 inches, post paid in tube. Address, DEVELOPMENT LEAGUE, Lewiston, Idaho, or Clarkston, Washington.

BEST OF LAND FROM \$12 TO \$25 AN acre in most flourishing province in Canada where farmers make money out of cattle, grain, alfalfa and sugar beets. Locate now. Fare rebated. W. R. GILSON, 411 E. Main St., Los Angeles.

The Produce Markets San Francisco

Los Angeles Markets

LOS ANGELES, Oct. 23, 1907.

Butter.

Butter is slightly higher than last quotation. Extras now command 77½ and some are getting as high as 80 cents per roll. The market is not bare by any means, but a firm tone prevails. Eastern has taken a material advance and is now quoted at 65.

Creamery extra per roll... 77½@80
Firsts... 65
Dairy... 48
Cooking... 45@47
Eastern... 65

Cheese.

Cal Young America per lb... 19
Hand... 20
California Anchor... 21
Northern fresh... 18
Eastern... 17½@18
Imported Swiss... 32
Tulare flats... 18½
Domestic Swiss... 21@22
Oregon... 18

Eggs and Poultry.

Eggs local candled... 42
Eggs case count... 39
Fresh Eastern... 35
Eastern storage... 24@27
Hens per lb... 14
Young roosters per lb... 14
Fryers... 14
Broilers per lb... 14
Old Roosters... 17
Turkeys... 17
Geese... 12
Ducks... 12
Squabs... 1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 lbs... 7½@7¾
Prime steers... 4½@4¾
Heifers... 4
Calves per lb... 5
Sheep ewes per head... 4.75
Lambs per head... 4.25
Wethers... 5.50

Potatoes.

At present the potato market is slightly stronger. An observer of the market says:

There are some who are predicting a strengthening in potatoes next week as a result of today's rain as it is figured it will temporarily restrain growers from digging, but even though this be a fact, the amount of potatoes on track at the present time is sufficient to supply all demands for a week or more even though another sack of potatoes does not arrive within that time. The final outcome will be that when growers do begin shipping again the shipments will be bunched together so there will be a more congested condition than had the steady inflow been uninterrupted.

Highlands... 1.50@1.75
Early Rose... 2.00
White... 1.90@2.00
Local Burbanks... 1.75@1.85
Salinas... 1.90@2.00
Sweet potatoes per lb... 1¼@2

AUCTION

8 miles south of

SANTA ANA,

on the El Toro Road, on the Santa Fe R. R. Take Santa Fe train leaving Los Angeles at 8:30 a. m. Teams in waiting at Irvine.

34 HORSES AND MULES

On Geo. Jeffrey Ranch one mile West of IRVINE

TUESDAY, Oct. 29th

AT 10 A. M.

10 head of Work Horses and Mares from 7 to 10 yrs. old, weight, 1100 to 1400 pounds each. Several matched spans.

22 head Work Mules from 4 to 10 years old, weight from 1000 to 1150 pounds each, well matched and all good work stock.

1 Mare Colt 4 months old, 1 Horse Colt 4 months old.
60 Chickens

Blacksmith Shop complete.
Implements: 4 eight-horse Gang Plows, 2 eight-ft. Chisel Cultivators, 2 ten-ft. Discs, 2 four-row Bean Planters, 2 double row Cultivators, 2 eight-ft. Cyclones, 1 six-ft. Mower, 1 ten-ft. rake, Broadcast Seeder, 4-gang Disc Plow, 2 Bean Cutters, 2 twenty-ft. Harrows, 3 Header Beds, 5 Wagons, Feed Rack, Flat Rack, 16 pair Stretchers and Lead Bars, Chains, 700-gal. Tank and Trough, etc., etc. 250 Sacks Lima and Black-eye screenings, 16 Set Work Harness, Double and Single Driving Harness, 2 Buggies, Kitchen Utensils, etc.

Terms: Ten months' time on sums over \$100 with approved security and 7 per cent interest. A genuine closing out sale—No reserve or limit.

FREE LUNCH AT NOON.

GEO. JEFFREY, Owner.

RHOADES & RHOADES, Auctioneers.
Office 730 S. Spring St., Los Angeles.

Onions.

Yellow Danvers... 2.00
Garlic... 8
Silverskins per ctn... 2.00@2.25
Australian Browns... 2.00@2.25

Vegetables.

Beets per doz... 35@40
Bell peppers green lb... 2
Beans Limas per lb... 2
Beans green... 1
Cabbage sack... 50
Celery per doz... 35@60
Chili peppers green lb... 2
Cucumbers per box... 15@25
Pickling... 50
Corn per box... 35
Cauliflower... 60@90
Carrots per doz... 30@40
Eggplant per lb... 2
Green onions doz bunches... 10@30
Lettuce per crate... 40@75
Pie Pumpkins... 1½
Peas sugar per lb... 5@6
Okra per lb... 5@6
Rhubarb per box... 1.35@1.50
Radishes per doz... 15@20
Spinach per doz... 10@15
Summer squash crate... 15@25
Turnips doz bunches... 40
Tomatoes per box... 15@30
Water Cress per hundred... 35

Citrus Fruits.

Valencias... 3.00@5.00
Grapefruit seedless... 3.25
Grapefruit seedlings... 1.75@2.00
Lemons fancy... 3.75@4.50
Lemons choice... 2.00@2.50

Fresh Fruits.

Bellefleurs... 1.50@2.00
Baldwins... 1.75
Pippins 4-tier... 1.50
Gravenstein... 1.50
Alexandria... 1.00@1.50
Cooking... 50@1.00
Blackberries... 7@8
Cantaloupes crates... 1.50@2.00
Casaba per crate... 1.75@2.00
Figs black per lb... 5@7
Figs white... 5@7
Guavas... 4
Grapes Isabelas per box... 1.25
Black Hamburgs... 65@85
Rose Peru... 65
Malaga... 1.25
Muscats... 75@85
Tokay... 1.50@2.00
Cornichons... 1.25
Logans... 12@15
Pears... 1.25
Peaches per box... 1.65
French prunes... 65@70
Hungarian prunes... 1.10
Pomegranates per box... 1.10@1.25
Persimmons... 5@7
Quinces... 1.25
Raspberries... 15@18
Strawberries... 5@6
Watermelons per lb... 1

Dried Fruits.

Apricots... 22@24
Evap. apples fy per lb... 8½@9
Figs loose... 8
Peaches... 12@14
Pears... 12½@13
Nectarines... 13@14
Prunes... 3½@5½
Plums... 11½@13

Beans, Dried

There is no change to speak of in the quotations of last week.
Limas per ctn... 4.50@5.75
Pink No. 1... 3.25@3.50
Lady Washington... 3.25@3.45
Small White... 3.25@3.40
Black eyes... 4.50@4.75
Garvanzas... 5.25@5.75
Lentils... 12@12½

Honey

Extracted white... 6@7½
Light Amber... 5@6
Comb water white 1-lb. fms... 12@16
Light Amber... 11@13

Nuts.

Almonds per lb... 18@20
Peanuts Virginia... 8½@9
Peanuts California... 6@7½
Walnuts No. 1 S S... 15@16

Hay.

Barley No. 1... 14.00@15.00
Barley No. 2... 12.00@13.00
Alfalfa northern per ton... 14.00@15.00
Alfalfa new local... 15.00@16.00
Plain oat No. 1 new... 12.00@15.00
Wheat No. 1... 15

Grain.

The Globe Grain & Milling Co.'s latest quotations on grains shows another advance of wheat during the past week.

Wholesale selling price f. o. b., Los Angeles.
Wheat new per ctn... 1.85
Wheat in 100-lb. sacks... 1.90
Barley... 1.50
Corn Eastern sacked... 1.80
White oats... 1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:
Cracked corn... 1.85
Shorts... 1.55
Bran... 1.40
Oil cake meal... 2.50
Feed meal... 1.90
Rolled barley... 1.75

SAN FRANCISCO, Oct. 22, 1907.

Butter.

Butter has been hammered down several notches during the past few days. The Exchange is now demanding 36 cents, but buyers will only offer 33. This is compelling a weakening effect and the lower grades are materially lower.

California extras per lb... 27
California firsts... 27
California seconds... 27
Eastern extras... 27
Storage Cal ex... 27

Cheese.

California young America fy... 27
California flats fy... 27
Eastern fy... 27
Oregon fancy... 27

Eggs and Poultry.

The egg market has also been tacked during the week, but the very light receipts have aided in holding firm market and only a drop of one cent is recorded during the week. Quotations now stand at 50 cents in fresh ranch.

Fresh ranch eggs... 50
Eggs firsts per doz... 50
Eggs seconds per doz... 50
Eggs thirds... 50
Storage Cal extra... 50
Eastern firsts... 50
Eastern selected... 50

Four cars of Eastern poultry were received on the first two days of the week. There is now a large stock on hand.

Hens per doz... 4.50@6.00
Hens large... 6.00@7.00
Young roosters... 6.00@7.00
Old roosters... 4.00@5.00
Fryers per doz... 5.00@6.00
Broilers per doz... 4.00@5.00
Geese per pair... 1.50@2.00
Ducks young... 4.00@4.50
Turkeys per lb... 18@20
Pigeons... 1.25@2.00

Live Stock.

Steers No. 1... 8@8½
Do second quality... 7@7½
No. 1 cows and heifers... 6½@7
Hogs 80 to 200 lbs... 7½
Hogs 200 to 300 lbs... 7½
Calves per lb... 4½@5
Lambs spring... 6@6½
Wethers, No. 1... 14
Ewes No. 1... 14

Potatoes

Five cars of sweet potatoes have weakened the market on sweets. Quotations the same as last week, but hard to get full quotations. Whites unchanged.

River whites... 1.00@1.25
Salinas... 1.40@1.75
Sweets... 1.40@1.50

Vegetables.

Cucumbers per box... 30
Corn per sack... 1.50@1.75
Chili peppers per box... 60@65
Bell peppers per box... 60@65
Egg plant per box... 60@65
Green peas per lb... 3@4
Squash per box... 85@1.10
Tomatoes California... 35@40
String beans... 24@26
Wax beans... 14@16
Garlic... 10@12
Marrowfat squash per ton... 16.00@18.00
Hubbard squash per ton... 10.00@12.00

Onions.

Onions Br Australian per ctn... 1.40@1.50
Yellow... 1.40@1.50

Citrus Fruits.

Valencias... 3.00@4.00
Grapefruit seedless... 2.50@3.00
Lemons... 4.00@4.50
Limes... 6.00@8.00

Fresh Fruits.

Apples Gravenstein... 1.25@1.50
Apples small stock... 40@45
Crab apples... 85@1.00
Figs one layer... 40@45
Figs two layers... 85@1.00
Grapes per crate... 75@1.50
Huckleberries... 6@9
Melons per small crate... 35@45
Pears cooking... 60@1.25
Persimmons... 80@1.00
Pomegranates per box... 75@1.25
Plums per box... 50@1.00
Peaches per box... 1.00@1.40
Bartlett's... 75@85
Quinces per box... 75@1.00
Raspberries per chest... 7.00@10.00
Strawberries per chest... 5.00@9.00
Watermelons per doz... 1.75@2.50

Dried Fruits.

Apples (evap.)... 10@10½
Apricots per lb new... 18@22
Figs white... 3½@5
Nectarines... 12½@15
Plums pitted... 10@12
Prunes 4 sizes... 10@12
Peaches... 10@12
Pears... 10@12
Prunes 4 size bag basis... 14@16

Beans, Dried.

Limas... 5.30@5.40

Pk.....	3.25@3.35
all white..	3.25@3.50
ge white..	3.00@3.10
ly Washington..	3.25@3.45
ck eyes..	4.00@4.25
l kidneys..	3.40@3.50
ro.....	3.15@3.25

Hops.

ps new future delivery per lb 7½@10	
ps old fancy..	4@6

Nuts.

monds new..	16½@17½
nuts California..	6½@7½
lnuts	14@17

Honey

ar white comb....	16@17
ber	12@15
racted..	7½
swax No 1 per lb	26@28

Hay.

ulfa local..	12.00@13.50
ne oat..	16.00@17.00
d oat..	10.00@14.00
eat No 1 new..	20.00@22.00

Grain.

at No 1..	1.67@1.70
ley No 1..	1.60@1.62½
n small yellow..	1.65@1.70
n large yellow..	1.65@1.70
es white..	1.60@1.65
es red..	1.75@1.90

Feed Stuff.

wn per ton.....	22.00@24.00
aw per bale..	75@85
d corameal per ton..	33.50@35.50
oked corn per ton..	34.00@36.00
ied barley per ton..	34.00@35.00
ake meal per ton..	38.50@40.00
eanut cake, per ton	25.00@26.00
dlings	29.00@31.50

Citrus Market

LOS ANGELES, Oct. 23rd, 1907.

The citrus market seems to be out of sight, both as to prices and as to what to forward. The one lone car reported from the auctions this week was in New York and it commanded an average of \$6.00 per box.

Northern new oranges are now being picked, but no report is in hand as to how they will be received.

Shipments to date this year are, 27,000 cars, of which 3440 are lemons. To the date last year, 25,871, of which 17,000 were lemons.

Oranges are commanding prices up to the fabulous. Regarding the prices, a N. Y. dispatch in a Chicago paper says:

If the shippers of California Valencia oranges are wearing anything like the same kind of a smile as their representatives in the East are, it certainly would be a great pleasure to look upon them. The sales of California oranges this week have been unusually satisfactory. There have been no extreme prices, although some very heavy fruit has gone as high as \$8. Offerings have been sufficiently large to hold the market steady with a gradual advance at each sale.

Advices from Florida show that a large quantity of oranges have been shipped, but no amount. Today the E. R. Brackett Co. received the first car to reach the market. The car was loaded at Alligator Creek, a little station near Fort Meyers, and left last Saturday. On examination the fruit was found to be very good, reasonably well colored and when the oranges were cut they tasted sweet. The car did not arrive in time to offer this morning, but Mr. Brackett thought the prices would range \$2.75@3.50. It is not expected that any real good Florida oranges will be in the market for a month. Some immature fruit will probably be here next week.

There are a few Porto Rican oranges here, only a few hundred boxes being sold this week. For this early in the season the fruit is nice and is bringing excellent prices.

Notwithstanding the fact that there is a large quantity of grapefruit on the market now from Florida, Porto Rico and Jamaica, all of good quality for so early in the season, the California product is selling to excellent advantage. Prices are somewhat lower than last week, but at Thursday's sale as high as \$2.85 was realized for half boxes. This is practically the windup of the California grapefruit season, and although there may be a little here next week, it will, no doubt, be about the last. Receipts of Florida grapefruit here have not

been very heavy this week, but have been about as large as were wanted." Lemons are not commanding the fancy price which oranges are, but the market has a healthy tone.

FINE POTATOES.



A. J. Young, seed potato grower and propagator, of Santa Ana, supplies us with the illustration of a new potato "Harvest King," which he has propagated and grown successfully at his ranch west of Santa Ana, for some time. It is of exceptional quality and of most desirable size and shape.

Of this and other varieties, Mr Young will plant over 50 acres this year.

ALL HALLOWS EVE.

Continued from Page 404

tom of a teacup is of so ancient an origin that its beginning seems lost in obscurity. The gypsies have made use of this medium from earliest times, and one has only to look through an old book upon the subject to discover how many have been the people who have believed in this sort of future telling.

Read the future with kindness. In making up the story consider the one whose fortune is being told. Some sensitive people take as real many things said in merest jest. If you have to deal with one of these supersensitive ones predict some good with the jokes to be given.

A Halloween apple test that causes much merriment is as follows: A pole is suspended horizontally from the ceiling by means of a rope. On one end of the pole is an apple, on the other end a lighted candle. The pole is started to twirling, and the lad or lass whose fortune is being tested must catch the apple, which, of course, represents his or her sweetheart, with his teeth.

Ducking for apples is one of the most ancient and most popular of Halloween games. A tub of water is placed in a convenient place. Then initials are scratched on apples and they are set floating on the water. Each player in turn "ducks" for an apple, which must be picked up with the teeth. The initial indicates the initial letter of the future husband or wife, and the number of times one ducks before securing an apple tells the number of years until the wedding.

If you want to know the number of years which must elapse before you marry, hold a silk handkerchief in front of your eyes and look at the moon through it. To get the charm just right the handkerchief must be one which has never been washed; when as many years will elapse before marriage takes place as there are moons seen through the intricacies of the silk.

DECORATIONS.

For Halloween decorations use ripe grain, corn stalks, pumpkins, autumn leaves, if you can get them. If they can be had in abundance, strew over carpet and surround room with the stalks and boughs of trees to give as weird a look as possible. If any draping or paper decoration is used, let the color be red, black, yellow or white. Paper mache snakes and masks and skulls may be made use of, but use the snakes sparingly. Use Jack o'lanterns everywhere.

Little lanterns, paper mache pumpkins, may be placed at plates as favors.

Vegetables make nice decorations. A big cabbage with coarser leaves, removed and inside scooped out makes a fine vase for a bouquet of carrots, beets, ears of corn, onions or parsley. Make candlesticks of potatoes, etc.

A center decoration of table, may be a witches' caldron on tripod. Around the caldron and at a little distance from it arrange a circle of candy witches and attach to the waist of each a narrow, black ribbon that leads to the plate line, where it terminates in a small envelope ornamented with the figure of a witch cut from black paper. This envelope should contain a prophetic sentiment or verse relating to love and matrimony. To avoid anything like a personal allusion in these prophecies, and to heighten the fun, the guests should be allowed to select their own seats. Use wooden picnic plates decorated with pictures of witches.

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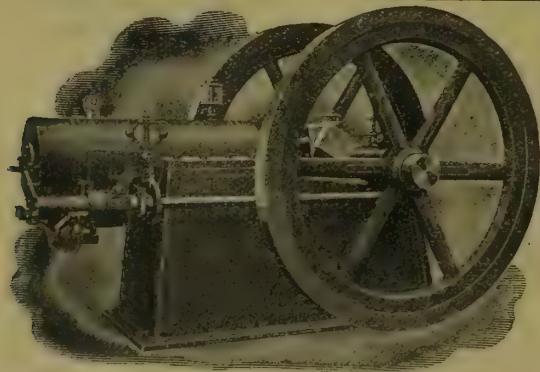
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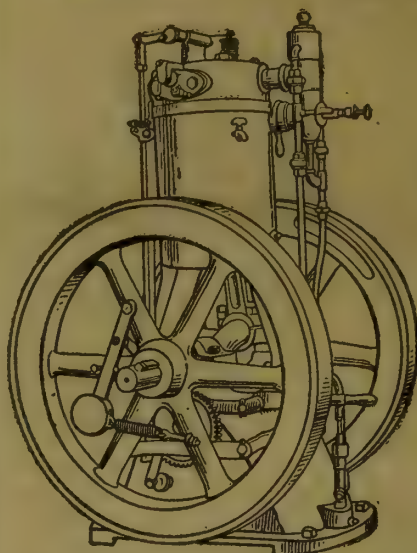
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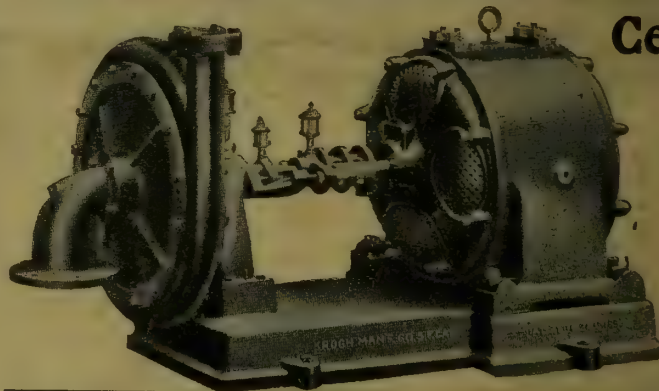
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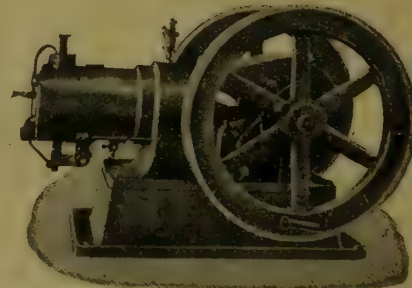
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STREAM flow consists of both surface run-off and seepage run-off. Although these two cannot be separately determined, total run-off admits of accurate measurement. Surface run-off may be considered as flood water, while seepage run-off is that portion of the drainage which gives the streams a sustained flow. It is evident that any factor which decreases the surface or superficial run-off and increases the seepage run-off is of the most importance in regulating the flow of streams.

The proportion of flood water to seepage is influenced by the rapidity of the rainfall. It is well known from direct observation that a slowly falling, prolonged rain, even on the naked soil of steep slopes, is all taken up by the soil. On the other hand, a heavy shower of short duration, falling on the same slope, may largely escape as run-off. In the first instance each drop has time to be absorbed by the soil, while in the latter the accumulation of drops is more rapid than the absorption, and the excess moves over the surface to the lower elevations. The forest canopy very perceptibly extends the period of time during which the rain reaches the soil, and in this way lessens the surface run-off.

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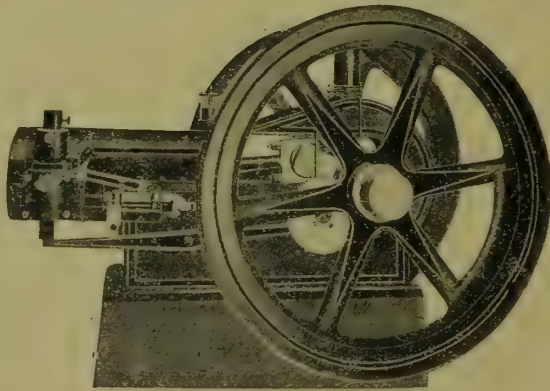
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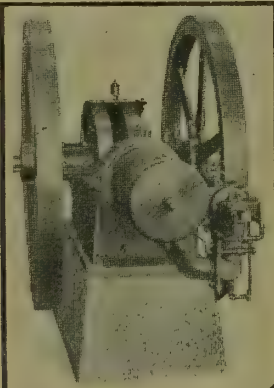
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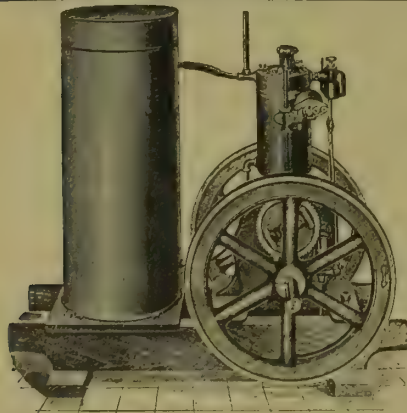


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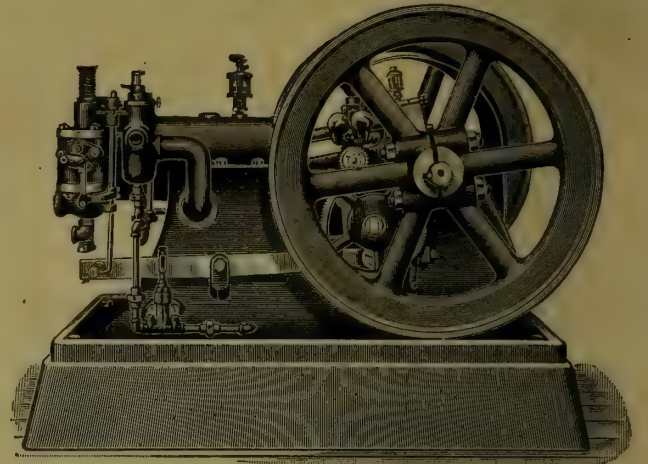
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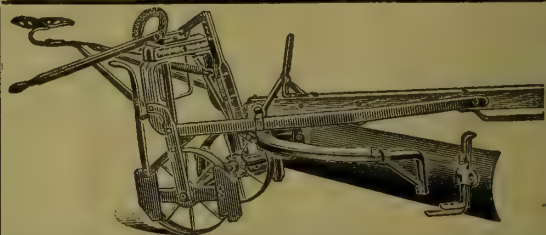
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Vol. XXIX—No 18

Los Angeles, California, Thursday, October 31, 1907

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The Greatest Need of Arid America

Prof. Samuel Fortier in His Talk Before the National Irrigation Congress Says Our Greatest Need is Industrious Settlers

OPINIONS will differ as to what constitutes the greatest need of arid America at the present time. The numerous wants of the new, sparsely settled region are not readily applied. When the region embraces two-fifths of the area of the United States and holds within its confines the destiny of fourteen young commonwealths its needs are multiplied many times. The remedies proposed are as varied as the conditions and obstacles. Better and cheaper transportation is one man's remedy, more capital to develop our resources is another's, while a third is in favor of establishing manufacturing plants. Many favor the further construction of irrigation canals and storage reservoirs and the preservation of the forests as the best means of benefiting the West.

While these and others that might be named are destined to play an important part during the next few years, none is deserving of a first place. In my humble opinion none of these are so important as the establishment of prosperous rural homes in the sparsely settled irrigation districts of this country. When one reviews the conditions which exist in the West today he is forced to the conclusion that our greatest need is to obtain a sufficient number of desirable white settlers and to assist them to such an extent that they will be able to overcome the difficulties peculiar to a new farm and to establish happy and prosperous homes.

In the brief time at my disposal I shall try to convince you that the West has reached that stage in its irrigation development when a large number of industrious settlers are an absolute necessity if success is to be attained. I shall endeavor to convince you that the rapid construction of irrigation works during the past few years is likely to progress far in advance of the actual settlement of the lands reclaimed and that unless settlement follows closely after construction much money will be lost in the maintenance of these works. Since, also, the main object of all irrigation works is to render the soil productive and since the presence and labor of farmers are necessary to accomplish this end, it will be my endeavor to point out ways and means of assisting the farmer in this most important task.

Lands Open for Settlement.

It is sixty years since Americans first began the practice of irrigation. Their efforts in that line have resulted in the settlement and cultivation under irrigation of something like eleven million acres. Of this total about ten million acres are to be found in the arid States and Territories. The conversion of so large an area of barren sands into productive farms and orchards and the establishment of the many industries which these fields and orchards foster and maintain has not proceeded with any great degree of regularity. There have been decades when little progress was made and these have been followed by periods of the wildest expansion. In no period of the past has such progress been made in the construction of irrigation works as has followed the passage of the Reclamation Act of 1902. At no other like period in the history of the West has so large an area been thrown open for settlement. This is shown by the following figures.

Two or three weeks ago I sent requests to a large number of State engineers, canal superintendents, land commissioners and others for the

purpose of ascertaining with some degree of accuracy the extent of unimproved lands provided with water rights which would be open for settlement in 1908. The most conservative of the estimates received from nine Western States and Territories are as follows:

Reclamation projects..	1,100,000 acres
Carey Act projects.....	975,000 acres
District organizations ..	400,000 acres
Private enterprises.....	1,300,000 acres

Colorado, Montana, Kansas, Nebraska, Oklahoma and Texas are not included in the above estimates. It is, therefore, no exaggeration to state that there will be five million acres ready for the plows of the new settlers before this Congress meets again. This means 100,000 families, number half a million people, and half a million more will be needed to occupy the towns and villages that will be created and to carry on the many industries which five million acres of intensively cultivated land is certain to develop and to foster.

No Shiftless Trash.

It would not be so difficult to secure a million people if all were permitted to come without reference to means, credentials or color. The indolent and shiftless beings who crowd the unhealthy tenements of Eastern cities might be induced to migrate, but only a small percentage of these have strength of either mind or body to become successful farmers. The large majority of this class would retard rather than advance the interests of Western communities.

Again, if we were to open our gates to Asia's millions there would be no difficulty in placing a yellow family on every ten-acre tract. But the people of the West, especially those of the Pacific Coast States, believe these productive plains and valleys bordering on the Pacific, barricaded by mountain fortresses and watched over by the silent peaks of a Whitney, and a Shasta, a Ranier and a Hood, were destined by the Almighty for a white man's country.

It is true the West needs settlers, but its needs are not so great that it can afford to adopt every one who crosses either the Pacific or the Missouri. The opportunities which it has to offer in the way of soil, climate, products and social conditions are such as ought to make the best class of citizens eager to come. It is to this class of citizens that the West is extending the warmest of welcomes. It wants the sons and daughters of the pioneers of the Mississippi valley who have grown tired of raising corn to try the more interesting and more profitable irrigated agriculture. It stands ready to hand over its dairies to the Norsemen, its sugar beets to the German and its vineyards to the Italians. With one hand towards New England and the other towards the South, it extends an invitation to the children of both Puritan and Cavalier to settle in the West and blend forever into the highest type of civilization what is best in both races.

Consequences of Failure to Obtain Settlers.

What if the West should fail to obtain a sufficient number of the right kind of settlers? The consequences could not but prove disastrous in direct proportion to the number of farms left tenantless. Were this to happen the States and Territories west of the Missouri river would be in a condition similar to the stockholders of a splendidly built hotel, with costly equipment, who are compelled to run it at a loss, because of the small number of paying guests. Like the

commodious hotel, the large irrigation system cost nearly as much to maintain and operate for a small number of widely scattered farms as for the entire acreage under it.

Those of my hearers who lived in the West during the latter half of the 80's and the beginning of the 90's know something of the large number of irrigation enterprises which were then projected, of the mad rush to acquire rights in streams and of the millions that corporations hoped to make by the sale of water rights and the collection of water rentals. When the crash came in 1892 and 1893 I was in charge of an irrigation system in one of the Rocky Mountain States. This system was begun in 1889, and in three years \$2,100,000 had been expended on its construction. The plan was to irrigate 200,000 acres by selling water rights at \$10 per acre and collecting an annual rental of \$1 to \$2 per acre. The men who put money in this undertaking lost all the interest and the greater part of the principal. The water supply was abundant, the system was substantially built, but failure resulted in not being able to get enough settlers to cultivate the land and use the water. Then, years after beginning construction only 14,000 acres were irrigated and of the total, one-half belonged to the canal company. The maintenance and operation expenses of so large a system could not be reduced beyond a certain limit and this limit was always far in excess of the revenue derived from water rentals.

The record of this enterprise is similar to scores of others that might be given. Probably 95 per cent of the capital invested in canal enterprises from 1885 to 1895 produced no dividends; and much of it was entirely lost. Many cases contributed to this end, but the three which stand out prominently were the heavy annual expenses in maintaining and operating new systems, the long delay in securing settlers and the inability on the part of many of those who did come to expend considerable money and from one to two years of unprofitable labor in putting desert land in a condition fit to cultivate and irrigate.

Must be Overcome.

While I have no desire to dampen the ardor of this large audience, yet it is a fact that the same causes which wrecked so many irrigation enterprises fifteen years ago are operating today, and unless measures be taken to overcome their effects promising enterprises will result in failures.

Western enthusiasts tell us the irrigation problem is solved, and to confirm this view they point with pride to the construction work that has been done during the past five years. We are told that over seventy-five million dollars have been expended in that time under Federal, State, district and private enterprises in providing water supplies. We all rejoice in the accomplishment of so great a task, but a greater task is still to be done. The irrigation problem is only half solved. Statesmen and capitalists alike have failed to realize that no irrigation enterprises can be successful without farmers and that it is the labor of farmers which determines the value of such properties. Corporations and districts may organize for the purpose of utilizing the streams, contractors under the Carey Act may provide for thousands of acres of sage

Concluded on Page 426

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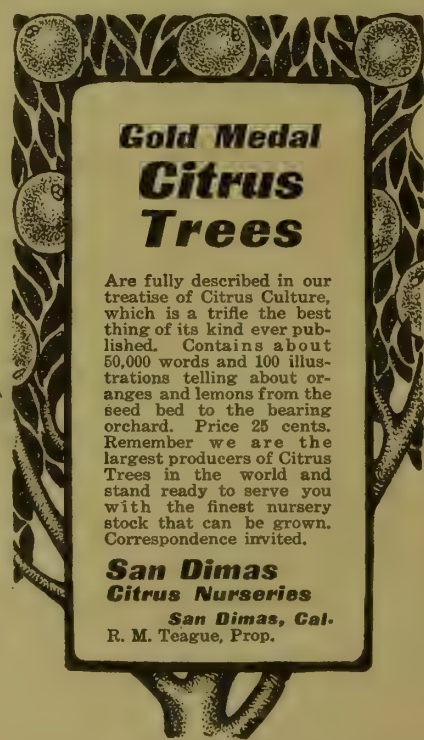
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With the Citrus Growers

CITRUS TREES ON THE DESERT.

THERE seems to be a bright future for lemons and early oranges in the Imperial valley. There are trials being made of late oranges which seem to be out of place. The navel orange is, without doubt, the variety for this section. It is early, and being of a drooping nature, is well adapted to protecting itself from the sun and reflection from the ground. Thomson's Improved is, perhaps, a good strain of the navel as it colors up earlier than the Washington navel.

It is a mistake to try to train orange trees of any kind in this section, so as to force a high growth. We had occasion to examine some Mediterranean sweets that had been planted with high tops. These had become yellow within a foot of the ground and a dense growth of sprouts had started from the base. Every tree in a plantation of a dozen or more, grew in this manner. The finest and thriftiest trees in many plantations observed by us were low-growing trees that shaded the trunks and the ground under the trees. Here is a pointer from nature that will stand many desert growers in hand.

Sunburned Trees.

We have been told with implicit faith by farmers in the Imperial valley that trees of all kinds never sunburn. They have seen their trees sunburn in other parts of the State, but in the Imperial valley the sun refuses to act in that capacity. In one case, a farmer had planted a dozen peach trees, all of which, "from some reason or other," had died to the ground and sprouted from the root. These sprouts had grown vigorously and without sunburn, but they had leaves on the stems from the ground up. The tight, discolored bark on the sunny side is a sure indication of injury by the sun. Any kind of wrapping will make the trees more healthy and longer lived. If old sacks are not to be had, arrow weed so plentiful along the canals, will make a good protection. All kinds of deciduous fruit trees should be pruned as low as six or eight inches when planted. This will provide a natural protection from the sun, and make a much more convenient tree to pick from. This problem was worked out years ago in the Sacramento and San Joaquin valleys.—J. W. Mills.

FROST PROTECTION.

OWING to the fact that the earliest planting of citrus fruits in the Riverside district were made on lands most easily reached by gravity water, there was a large portion of the earlier planting that was so located as to be especially subject to occasional frosts. At the time of the great Christmas freeze of 1892, the first of a series of more or less severe freezes, this section was severely injured. This was to such an extent that many growers who were carrying heavy mortgage indebtedness lost their entire holdings. At this time the land in citrus fruits was a narrow strip extending below the ditches, for a stretch of something like ten miles, not over a mile wide in any one place, thus forming a barrier to prevent the flow of cold air from extending to lower levels, making the citrus belt much more subject to

frost than it had been at first planting.

This is now largely changed, the large plantings above the Riverside water-level ditches have extended as to be from three to miles wide. The radiation of from the orchards above, as gravity flow of air proceeds, has materially tempered the locality and this land below the ditches is comparatively immune from this of injury to growing crops.

Some Early Experiments.

It was during these years of "scare" that various systematic experiments were undertaken. It was early discovered that running by the furrow system of irrigation was a safe and often sure means of protection.

One of the earliest experiments on a large scale, was with crude oil piped to burners throughout the orchard from oil drums properly placed. It was A. J. Everest who installed this system, and though expensive for general use, paved way for more practical application of the use of direct heat. One of the most serious objections to this system was the immense volume of black, greasy soot deposited on the fruit, houses and, in fact, everything outside, not only the operators' orchard, but adjoining properties. It was so objectionable that suit at law was threatened by neighbors.

Mr. Everest and many others began a systematic study of the temperature variations of our nights. Thermometers were stationed on masts to determine temperature at various elevations. The Hygrometer was employed to determine the relations of the point to our frosts, and air currents were studied. Then much data was collected in a semi-scientific way, which has cast a flood of light on the question as it applies to the interior valleys of the citrus belt in California.

Organized Effort.

Then came the efforts of the Riverside Horticultural Society and its members in an effort to determine the best form of "frost protection." Pretty much everything was tried that had ever been suggested. Literature was ransacked in our own language and the Spanish. The aid of the government observers at San Francisco was invoked. Mr. Everest had built lattice shelter over a large acreage on his ranch to test the value of prevention of radiation by that method. This was found to effect the temperature sufficiently to attain immunity in but extreme cases. But owing to the cumbersome nature of such a structure, it was too expensive to move and erect each season, and the trees did not thrive so well in constant semi-shade.

Smudges.

Smudges were tried as a means of raising the dew point, and also an attempt to form an artificial cloud. For this purpose wet straw was burned in piles distributed in orchards at intervals.

Great vats were constructed with fire boxes underneath to create a cloud of steam. Mr. Priestly constructed a large hopper to be filled with wet straw over a good fire, the whole to be drawn through the orchard on a sled. Messrs. Wright Bros. constructed a steam

er which projected quantities of am into the air.

all of these proved to be of little ue, unless, perhaps, if carried on, a very large scale. The atmosphere s usually so dry at the time of sts in our valleys that all vapor duced is soon dissipated and all ct apparently lost.

Coal Basket.

Mr. Edward Copley created great erest by his experiments with the l basket. It was a wire basket ich would hold about 25 pounds of l, besides the kindling material essary to start it. These were ended in the orchards at the e of from 25 to 50 per acre. They e found to be quite effectual, but these objections. It took much or to keep them burning. They e difficult to light, if the kindling s damp, and it was expensive to ll.

Pots.

ll pots came into favor and were y effective and economical. The ne fault applied to them that did the crude oil burners installed by Everest. It made a vast amount smm

quettes.

hen came the briquettes, a com- ssed combination of asphalt, oil l sawdust. This was found to be s expensive to handle than the l basket, but there was difficulty keeping them burning.

he latest device is a sheet iron ve in which material similar to briquette is burned. This is pped in in sacks, loose, and has ved quite satisfactory. It is the th thing yet produced. It is a lit- ore expensive to install than e others. It certainly does the

California Horticulturally

THE NEW HORTICULTURAL COMMISSIONER.

W. JEFFREY, the newly ap- pointed Commissioner of Horti- culture, has taken possession of office and already commenced ac- e work. Mr. Jeffrey has brought ened experience and a thorough wledge of the requirements of the it growers of the State to his rk, and enters upon it with a mind e from hobbies or prejudices. He e presents one of the greatest indus- es in the State, one in which e is room for great work, and his lity and past record both give omise that the office will be well ed. Mr. Jeffrey has a way of mak- g friends, and already the papers the northern part of the State are ed with favorable mention of him.

PRAYING FOR PEACH BLIGHT.

The season for active work against ach blight has now arrived, and in peach orchards where this disease s manifested itself during the past son, a thorough spraying with the rdeaux mixture, winter strength, ould be made between now and the ddle of December. The fungi ich cause peach blight and shot- le fungus are very nearly related, d the spores are now lodged on the lected trees. These spores send t their roots into the tender twigs soon as atmospheric conditions are vorable, and once rooted it will be ch more difficult to destroy them an at the present time while they e dormant and can very easily be ched.

work with less uncertainty and less labor.

These later methods are all based on the direct heat theory. The cold air being a shallow layer of cold settling down into low places and subject to stagnation and concentra- tion, where air drainage is imper- fect, the aggregation of small fires in the area of greatest danger serves to raise the temperature of this low waste, and the work is done. The elevation tests showed that at a height of say fifty feet, the temperature is from ten to twelve degrees higher. For this reason the effort is simply to disturb this low- lying strata of cold air. Hence, the great value of removing water; the radiation of heat from the water as it comes from the ditches and is distributed through the orchards is considerable.

It Is Practicable.

In conclusion, let us say to the oft- repeated question: "Is it practica- ble?" Yes, it is practicable; it was demonstrated beyond a doubt and has been many times since, that any- one can, with five or ten acres of or- chard properly equipped, protect it from such frosts as we have had in the past. In order to do this, we would suggest that the orchard be kept wet during the danger period, if it is not possible to have running water, and then with forty or fifty of these little stoves to the acre, a perfect immunity can be secured. But it means hard work. It means vigilance. It means sacrifice of night comfort, and it means some ex- pense.—E. L. Koethen, Riverside.

Newly appointed State Horticultur- al Commissioner Jeffrey, left for Sac- ramento last week to take the oath of office and begin his new duties.

NO RAIN IN THE NORTH.

Northern California has had an- other unusually open season, which has been especially favorable for the growers and shippers of table grapes. Usually there is a rain about the middle of September and if this is very heavy much damage is done to the fruit on the vines. For the past two years, however, rain has not fallen until the fruit was all off the vines and shipped, which fact has added many thousands of dollars to the incomes of the vineyardists. This season there has not been even a shower to interfere and shipments of table grapes are still going for- ward, and prices being received are better than ever. From the experi- ence of several years past, table grapes are the most profitable fruit crop now being grown in the State, and there is no reason why they should not remain so. There is a very large and steadily increasing home market, the greater part of which is not supplied, for there are still many millions of people in the United States who cannot get grapes and who remain to be reached. Rail- roads are reaching out and opening new markets each year; improved methods of shipping are being de- vised, and there is every prospect of an increasing demand, while the area in which the best grapes can be grown is comparatively limited. Grape land, too, is still reasonable in price, and the cost of starting a vineyard is much less than that of many other fruits, while it will yield some returns the second year and a paying crop the third. In view of the fact that we in California demand immediate returns for our invest- ments, it is not surprising the table grape growing is now exceedingly popular.

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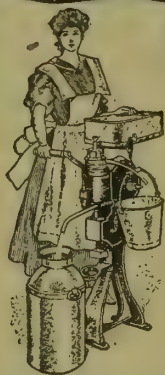
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Live Stock and Dairy

BUTTER MAKING ON THE FARM.

A FEW women are making butter at home instead of sending the milk to the creamery. To these few this article is addressed. In the most of these cases there is too little milk to make it profitable to haul to a creamery. The farmers' wives, I think, in a few years will turn more to butter making for private customers. Creamery butter from the large plants is mild flavored and sweet, but rarely has the bouquet or aroma of the well made butter from the private herd. The private butter maker watches the entire process from feeding and grooming the cows, to the milking and making of the butter until it is in its parchment wrappers ready to go to market. The common farm butter is poor from lack of facilities. Many a farmer's wife would gladly make butter from the milk of a few cows, as a source of pin money, if she was properly equipped to lessen the labor.

Separator.

If possible, have a separator. When more than five cows are milked it is a necessity. Personally, I would have one if I had only one cow. Why? Because the majority of people are accustomed to use separator cream. This is absolutely sweet and fresh, while the lumpy off-flavored cream from pan skimming is very distasteful even when disguised in tea or coffee. Then further, in making butter the pan cream is ripe when skimmed, and it must be retarded or else it develops too far before the butter is made, while with a separator the cream is under good control as to acidity or ripeness at all times. While the separator may not be an economical investment for one cow, yet I am convinced it pays in giving the mother a little more leisure to be a companion of her children. It also saves her strength and may reduce the doctor's bills by giving time for recreation. Recreation means merely creating anew the strength of the human body by rest and change.

Pans.

Where pans are used, the best granite ware will cost a trifle more, but they are easier to handle and keep sweet. The deep setting pan, formerly the Cooley patent but now made in many other names, is not as commonly used in California as in the East. If warm water is put into the can before the milk is added and both are stirred together thoroughly, the success is assured of clean skimming. The can stands in a cool place that makes the cream rise more quickly. The can is kept covered with a double thickness of cheese cloth to exclude the dust. When pans are used a close cover of cheese cloth is made for them. The cheese cloth cover is slipped over a wooden frame made a little larger than the pans so that it will rest on the shelves outside the pans. The cover is made like a pillow slip, open at one end and the frame slips in. Make large enough to take in the height of the pan above the shelves. The shelves are made of two-inch slats and are laid into cut supports two inches apart, and not nailed fast. Made in this way the slats can be removed and scrubbed clean every week.

Cleanliness.

Cleanliness is next to Godliness of course, for it is hard to do duty by anything and not acknowledge Godliness. Whenever we do we seem to be either following first or second commandment Christ: Loving God or our neighbor.

The milk must be clean if butter is to be made. Milking is rarely to be considered a woman's business in California. She however, insist on the milk pails being brought to the house to be cleaned and scalded. Cold water first to rinse out the milk. Then warm water with a tablespoonful of sal soda to the gallon, then the cans after rinsing out the soda water. Use a scrubbing brush with the sal soda and warm water, then rinse with hot water. Fill the can, bucket or pan half of boiling water and cover for ten or fifteen minutes. Empty and stand outside in the fresh air, turned upside down to drain dry.

Ripening.

The cream from the deep setting pans or Cooley creamer is not usually ready to churn at once, it must be set aside in a cool place, stirred down well into the cream jar. The cream from shallow pans is ripe for churning when skimmed during the greater part of the year. It is, therefore, kept cool until enough has been collected. When the cream is in small quantities it would rather churn oftener than allow it to become bad.

Now here is one difference between creamery and dairy butter. Creamery cream is under control as to acidity, while dairy cream is churned when exactly right as to acidity, while dairy cream is not until breakfast dishes or the butter is out of the way, regardless of the fact that it is ready to be churned. The dairy butter starts off in its life career aged, while the cream butter starts off young, in flavor. Gradually the people have come to prefer an almost sweet cream butter, so that gradually the cream comes to be ripe only to the first degrees of acidity, rather than, as far as possible without tainting, lowering of keeping quality follows this in a measure. As the ripening goes on in the butter, the flavor from wrong flavors falls on the consumer, instead of on the producer.

Deep Setting.

The cream from the deep-setting can is stirred together and for twenty-four hours before churning time. No fresh cream. Keep in a cool place, and if the cream does not acquire smooth, satiny appearance of a sharp, sprightly acidity then warm it up to eighty degrees by stirring with a clean bottle filled with hot water, or stand the can in a sector can of hot water. Cover closely for an hour, then taste, and if ripe churn and churn at once. Separator cream takes longer, usually thirty-six hours after the last cream is stirred into the batch.

In adding one lot of separator cream to another, have the temperature the same; this is usually done by letting the cream stand in a can in the same room with the separator ring it into the cream jar.—M. Sherman.

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TELLING HORSE'S AGE BY TEETH.

It is an advantage when buying a horse to be able to size up all the points from which the animal's age may be judged, and the surest test is the appearance of the teeth. The following has the endorsement of our veterinary as being all that can be put in print. "The rest," he remarks, "must be learned by experience."

The horse has 24 temporary and 40 permanent teeth, though many mares have only 36 permanent teeth, owing to the lack of tusks. The temporary teeth consist of 12 incisors and 12 canines; the center front teeth, two above and two below, are called central incisors; the next four, are called intermediates or laterals, and the next four corner teeth. The permanent teeth consist of twelve incisors, four canines, and 24 molars. The dental star is a yellowish ring appearing at the enamel on the table or crown of the tooth. The following table shows approximately the changes of the teeth with age:

From birth to ten days: temporary central incisors and three molars cut. From ten to sixty days: temporary intermediate or laterals cut. Six to nine months: temporary corner teeth cut. From nine to 25 months: leveling of temporary corner teeth. Two and one-half to three years: pinchers replaced by permanent teeth. Three and one-half to four years: intermediates or laterals replaced. Four and one-half years: tusks cut. Five and one-half to five years: corner teeth replaced. Five to six years: leveling of lower pinchers. Seven years: leveling of permanent intermediates. Eight years: dental star and notches in pinchers. Nine years: dental star in intermediates. Ten years: dental star in corner teeth.—Farm Stock and Home.

HINTS FOR FARM HORSES.

The grain box should be large, with a flat bottom, so that the grain will fall and not be bolted. See to it that the work collars fit and that they are kept soft and supple. There are few things more discouraging in the beginning of a new season than horses with sore hocks, and this vexation and irritation can be avoided by the exercise of proper care. A well grown yearling is worth more than a stunted two-year-old. The brood mare should have a few hours exercise in the yard or on the road every day. It does not pay to keep her confined. The horses and colts should be kept away from the hens and hogs. The odor of the pigpen is offensive to the horse, and hen lice are hard to eradicate. Never shout at a young horse while training him. Irregular feeding makes thin horses, no matter what amount is given. Keep the colt's feet in good shape. Do not let the toes become too long. Breed only to pure bred sires. Use pure bred dams if possible.

BEET PULP.

Beet pulp has been found to be a very satisfactory feed for dairy cattle. Experiments made by both the actual feeders and the stations show that pulp may be fed to the saving of other feed, especially hay. The feeding value of beet pulp and that of corn silage is practically the same, so if the pulp can be bought for \$2 to \$3 a ton, it makes a very cheap feed. Pulp has a very beneficial effect on the yield of milk, if fed during that period of the year when the flow usually decreases, because of the shortness of the pasture.—Journal of Agriculture.




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Sale Begins Promptly at 12:30 P. M.

T. B. Gibson and H. P. Eakle, Jr., will sell at public auction 76 head of Short-Horns on the farm of Mrs. W. B. Gibson, one mile from depot. This offering consists of 39 bulls, including the pure "Scotch" bull Saturn, 37 cows and heifers. In this offering is the get of Noble Knight, Saturn, Brampton Hero, Senator Lad and King Spicy. Everything will be offered in good breeding condition, and will prove useful to the buyer. Remember the date and come to the sale. Write for catalogue, mentioning this paper.

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MOLASSES FOR HORSES.

As an illustration of the advantages of feeding molasses sprinkled on cut hay to horses working hard, the Lawrence Agricultural Company formerly had an expense of \$120 per month for rolled barley; this, by the use of 12 barrels of molasses at \$1.25, or \$15, was reduced to less than half. The hay used was volunteer, cut in April, full of salt grass, weeds and burr clover. An experiment in feeding this weedy hay without the use of the molasses was that about one-half was wasted, making it impracticable to try to use it for a working team. It had been offered for sale at \$2 per ton but was rejected.

The method of feeding is to cut it up with a hay cutter, then to sprinkle it with three quarts of molasses diluted, over 20 pounds hay per head per day, using together with the same about seven pounds rolled barley per head per day.

The result was that the horses, although continuing their hard work, not only held their own, but stood their work better than on grain and are today sleek and in good spirits.

To summarize—The cost of feeding 23 head of horses one month:

Rolled barley hay 4 tons @ \$30.00	\$120.00
Best barley hay 10 tons @ 12.00	120.00
	\$240.00

Molasses combination:

Cost of cutting at \$1.25 per ton	10.35
13800 lbs. Volunteer hay @ \$2.00	13.80
12 bls. molasses \$1.25	15.00
2 tons Rolled barley @ \$30.00	60.00
	99.15

Thus it is seen that the expense is reduced to less than one-half, while the rolled barley still is the greatest expense item. The comparison between ten tons of best hay and less than seven tons of volunteer hay, shows a discrepancy for the reason that the volunteer hay was all eaten when treated with molasses, while even the best barley hay fed dry necessities a great deal of waste. By the use of molasses the volunteer hay was equally as good for the purpose as it was all eaten up clean when the molasses was sprinkled over it. Later, the item of rolled barley will be further reduced and probably cut out altogether.

The principal difficulty in regard to the use of molasses as above illustrated, is that there is such a demand for it in the manufacture of vinegar and denatured alcohol that it is not available during several months of the year.

MOLASSES IN GERMANY.

In other countries people are far in advance of us in utilizing molasses for stock feed.

In Germany, according to the "Scientific American" dried peat is ground and sifted and mixed with molasses in the proportion of 25 per cent peat and 75 per cent molasses obtained in the manufacture of sugar from beets. This product is guaranteed to contain 35 per cent to 40 per cent sugar.

Horses feed with this develop a glossy coat, gain in appetite, and are free from colic. Neat cattle are said to become less subject to foot and mouth disease. The addition of four and four-tenths pounds to the dairy feed of milch cows is said to increase the daily yield of milk about fifty-five-hundredths gallons.

In the province of Hanover from 10,000 to 15,000 tons are used each year, while Germany as a whole, consumes about 200,000 tons, or the equivalent of 33,000,000 gallons.

In this country a perfect substitute for the peat would be leaves from the

alfalfa which shell off in handling, a mixture of molasses and alfalfa in this way in the right proportions would be ideal for cows, horses and hogs, being a highly nutritious and cheap feed taking the place of grain in value, at a very much less cost.

SUGGESTIONS FOR DAIRYMEN.

A good time to do your dehorning is to dehorn the calves with a good dehorner when they are a few days old. Mark them with an aluminum ear mark so you can keep a record of them.

Keep a record of the breeding of each cow, so you will know when she is due to calve, and then allow her to go dry six weeks before calving.

The dairy bull should be fed like a working horse and should receive plenty of exercise. Work him in a tread power.

The milking is one of the most important parts of the dairy business. The cows should be milked quickly, clean and quietly. Do not excite your cows or they will not let their milk down. Don't lick a cow because she kicks. If she kicks there is some cause for it. Look for the cause and remedy it. It may be a sore teat, it may be an inflamed udder, or it may be that she has been misused and regards her milker as an enemy that she must fight. If such is the case, treat her kindly and she will soon learn that you are not going to harm her.

Clip the long hair off the udder and flanks and tail and wipe off the udder with a damp cloth before milking, and you will be surprised to see how much cleaner the milk will be.

Weigh each cow's milk with an accurate scale and test the milk with a Babcock tester and you will be able to see how many of your cows are paying for themselves.—Dr. Roberts, Cattle Specialist, Wisconsin State Veterinarian.

From a financial standpoint it is of the highest importance that farmers should deliver a No. 1 cream of the finest quality and flavor. In order to do this they must deliver the cream more frequently than they have done heretofore. It is impossible for a buttermaker, no matter how competent he may be, to manufacture a high-grade of butter from old, stale, sour cream.—Coleman's Rural.

The trouble is usually with the dairyman when a small dairy does not pay. He misses a cog somewhere. Given careful attention to all the details of his business, cleanliness in his barns and in his utensils, the business ought to pay as well proportionately, with a dairy of 20 cows as with 45.

The proper feeding of a dairy cow is a science but it is a science which cannot be expressed in carefully laid down rules which are to be strictly followed. The judgment of the feeder must always be exercised both in the selection of feeds and in the quantity and proportion to be fed.

Decide on 200 to 250 pounds of butter a year from each cow and if any falls below that standard, sell them as soon as possible. The cow that does not come up to the ideal should not be kept even if she is paying a small profit.

To a considerable extent, at least, the flavor of the butter depends upon the flavor of the food given to the cow.

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If you would have your harness rain-proof, sun-proof, sweat-proof, soft, strong and pliable, use

EUREKA Harness Oil

Makes old harness look like new. Preserves the looks of new harness. Contains nothing to cut and chafe. Will not rot stitches.

To reduce axle-friction to an absolute minimum use

BOSTON COACH AXLE OIL

Superior to castor oil and more economical. Does not gum or corrode. Highest Award World's Columbian Exposition. Sold everywhere—all sizes.

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MILK CANS ROB YOU

Look through a microscope at milk set to cream in pans or cans and you'll see how they rob you. You'll see the caseine—the cheese part—forming a spider web all through the milk. You'll see this web growing thicker and thicker until it forms solid curd. How can you expect all the cream to rise through that? It can't. This



caseine web catches a third to half the cream. You stand that loss just as long as you use pans or cans for they haven't enough skimming force to take out all the cream. But, just the minute you commence using a Sharples Dairy Tubular Cream Separator, you stop that loss.

Sharples Dairy Tubular Cream Separators have 10,000 times more skimming force than pans or cans, and twice as much as any other separator. They get all the cream—get it quick—get it free from dirt and in the best condition for making Gilt Edge Butter. Caseine don't bother the Tubular. The Tubular is positively certain to greatly increase your dairy profits, so write at once for catalog 1-260 and our valuable free book, "Business Dairying."

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20 Cows

Are Easily and Cleanly

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Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

orms.
I have a colt seven months old. I noticed today that it is troubled with worms. I found six or eight long ones out five inches long in manure. The colt is doing well and in good condition. Wish to know a remedy. Subscriber.
Give the colt teaspoonful of pulverized sulphate of iron night and morning in mash for a week. Then give pint of raw linseed oil and one ounce spirits of turpentine to clean them out.—Dr. Oliver.

strawberries.
What are the best kind of strawberries to plant for family use? How often do they need irrigating?—J. W. Riverside.
All things considered, the Brandywine is the best strawberry for southern California, either for market or family use. Two hundred plants (if they have been properly grown,) well cared for, will supply any medium-sized family. Plant in rows 20 inches apart and 12 inches apart in the row. If birds are troublesome set up two boards eight inches wide—one on each side of the row—and cover with cheese cloth or

mosquito netting. The berries will be all the better for the shade of the cloth.—Q. A. R.

Standard Scale.
Please state through the Cultivator if there is a standard weight and measure law in California. Have a Howe scale which does not give same weight as scales in town where I sell my fruit. Grocer claims his scales are correct, but they fall short of weight indicated by my scales. My scales have been tested, but the grocer refused to have his scales tested, claiming they are right. If there is a law on this subject please state where it may be found, and its provisions.—B. P., Redding.

There is an established standard of weights and measures in this State. (See Statutes, 1891, page 487.) A county sealer may be appointed by the Governor or at the instigation of the Board of Supervisors of any county in the State. He holds office for four years. All persons using weights and measures, etc., must have the same inspected at least once a year. Persons using weights and measures without having them certified to as provided by law is guilty of a misdemeanor and on conviction may be

fined not less than \$50 nor more than \$100 for each offense; and the person giving the information necessary to secure conviction is entitled to half the fine.—L. M. Falls.

Juvenile Court.
Will you state in the Cultivator if a decision of the juvenile court is the same as a decision in any other court of law? My neighbor has a son who has been sent to a detention home. His parents need him on the farm and the boy is willing to return and go to work. How can the release of the boy be obtained?—A. B.

The juvenile court is a department of the Superior Court. Its decisions on orders are as binding as any other of the Superior Court. The boy's record in the institution in which he is placed will have much to do with his release. Correspond with the authorities of the institution.—L. M. Falls.

Is Sabbath-Made Contract Legal.
Please tell me if a contract made on the Sabbath is binding. A. called at my house on Sunday and offered me a certain sum of money for my hay and I agreed to take the price named. Later refused an offer to sell at an increase. Now A. refuses to take the hay. There is no dispute as to the character of the hay but only as to price. A. claims the contract was made on Sunday and is not legal.—A. C. Tibbits.

There is no law in this State declaring a contract made on Sunday void. Sundays and certain other days are legal holidays and when any act of a secular nature, other than works

of necessity or mercy, is appointed by law or contract to be performed upon a particular day, which day falls on a holiday, it may be performed on the next business day with the same effect as if it had been performed upon the day appointed.—L. M. Falls.

Distance of Bees from Property Line.
Is there any law in this State regulating the distance which a bee hive may be placed from the property line?—A subscriber.

We know of no State law governing the distance which a bee hive may be placed from the property line. The owner is liable for any damage his bees may do because of any carelessness upon the part of the owner in locating hive.
Los Angeles and other cities by ordinance exclude bees from the limits of the city.—L. M. Falls.

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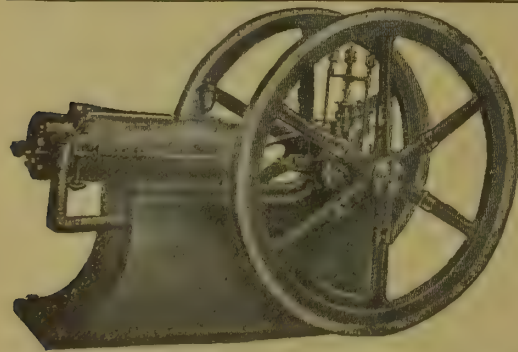
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The Vegetable Garden

THIS MONTH.

CONTINUE to plant peas, lettuce, cabbage, cauliflower, onions, beets, spinach, salsify and turnips. Asparagus roots may be replanted. In frostless sections egg plant and tomatoes may be replanted.

The portion of the garden which is to be planted next spring to the more tender plants may be heavily dressed with coarse manure, which, if plowed under now, will fit soil for fine work a few months later.

But above all plant the peas and other winter growers so that when the Eastern friends call—fresh from the blizzard country—a nice fresh dish from your garden will be a clinching proof that California's climate isn't "so worse."

THE HYBRID CASABA MELON.

Southern California is to be congratulated on its capacity to produce new varieties of fruit. One of the latest is the hybrid casaba melons. It, like nearly all new productions that have unquestionable merits, is a chance hybrid brought into notice by Mr. Samuel Rule. It is a cross between the old winter casaba melon and the early Hackensack muskmelon and, strange to say, it far exceeds either parents in sweetness and spiciness, and is about as good a keeper as the old winter casaba melon and, to cap it all, it grows to fully twice the size of either parent. Its popularity is steadily on the increase. As I predicted last year it is now in demand early in the season. Many people refuse to eat any other variety.

Like all the hybrids it is inclined to run into varieties, one resembling the Hackensack in shape, the other is somewhat elongated, something of the shape of the winter casaba melon. The former is of a dark green, while the later is light in color; the Hackensack is the favorite with most people, being far the sweetest and spiciest.

To Mr. Rule belongs, as stated, the credit for bringing this valuable fruit into general use. He did not try to hybridize the above melons. The winter casaba and the Hackensack grew side by side and the crossing was entirely voluntary. Mr. Rule did not know that he had planted a hybrid melon until the melon began to ripen. Ninety-nine persons out of a hundred would not have had the sagacity to continue the melon. This melon will thrive on poorer soil than the musk or cantaloupe melon. It is hardier and a great feeder, having a powerful root system. It is subject to the same pests as the other melons, as well as the rust blight, although the latter is not so destructive to it. It ripens about the same time as the Montreal muskmelon.—J. C. Ostergard.

CELERY BLEACHING.

The object of blanching or bleaching celery is to secure stalks without leaves and free from too great an amount of woody fiber. This insures crispness and tenderness, with a desirable flavor not found in the plant when it is not blanched. There are several simple methods of blanching, among which the following may be given:

Boards.

Perhaps the most common

method of blanching celery is to set boards on either side of plants as closely to the row as possible. These boards are tacked together by means of bands across top and braced to each other so will be self-supporting. Some dump a little dirt to the outsides of boards to make certain that plants do not get too much light air. These boards should be 10 to 15 inches wide, the most common width being about 12 inches. Any of the cheaper grades of lumber will answer the purpose. This method will be very expensive, as it will take 24 feet of lumber for 12 feet of plants.

Soil.

Still another method and perhaps the cheapest of all is blanching with soil. When the celery is ready to blanch, draw the stalks closely together over the crown of the plants and then draw the dirt on all sides of the stalks, leaving only the top of leaves exposed. Another plan of drawing the stalks together is to wrap the first bunch of the row with twine, then pass a string to the next bunch without cutting or breaking and wrap it around the stalk and pass to the next till all the bunches in the row have been drawn together.

Tile.

W. R. Beattie of the Oregon Station, in a recent circular, describes how tile may be used, in the following language: "Perhaps the most satisfactory way of blanching celery on a small scale is by means of ordinary farm drain tiles of about four inches inside diameter, placed over the plants after they have come almost fully grown. To facilitate the work of placing the tiles over the plants, some of the outer leaves should be pulled away and the main part of the plant loosely tied together by means of a soft string or better, with what is known as per twine, being a string made by twisting a strip of soft paper. This string will lose its strength as it becomes wet, and will offer resistance to the further growth of the plant. The presence of the tiles will cause the leaves to draw above the top of the tiles, thus forming a screen over the top and shut out the light from the interior. If the common unglazed tiles are used the evaporation from their face has a tendency to keep the plant cool during the heat of the day and a very crisp and tender product is the result. This method of blanching is desirable also on account of its cleanliness, as celery treated in this way will need but little washing before marketing."

Straw.

The same authority quoted above says the straw method is rarely attended with good success. He writes: "Another method of blanching is by banking with straw or leaves, but this is objectionable, as the material used generally imparts an undesirable flavor to the stems. The use of any material that is in process of decomposition will cause decay to attack the stems. Common brown grocery paper is sometimes employed for blanching on a small scale by wrapping it three or four times around the celery plants, then fastening it by means of rubber bands or strings. This method is scarcely to be recommended, as the application of the paper is tedious and does not produce a good grade of celery.—Journal of Agriculture.

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The Ornamental Garden

THIS MONTH.

BULB planting should be pushed during this month. The satisfaction given by bulbs is appreciated by few. Most of them are not expensive and reproduce rapidly. Some few deteriorate or "run out," but even these are of such beauty as to be worthy of incurring the loss.

Gladiolus may be planted every month from now till June. That will give a succession of bloom which will give that matchless flower at all seasons.

One of the prettiest of the gladiolus family is the Bride—not one of the largest, but an exquisite little flower perfectly white and a beauty for cutting.

The article on "Growing Bulbs" by O. M. Morris, which appeared in the issues of July fourth and eleventh will be excellent reading at this time.

Early lilies may be planted at once. Frezias also.

Sow pansy seed, stocks, phlox, dianthus, centaureas, etc. Thoroughly mulch the garden with stable manure or fertilizer.

Nearly all annuals may be planted this month. Be sure and get out a long row of sweet peas.

Rake up leaves, weeds, etc., and place in compost heap.

NAMES OF FLOWERS.

It is interesting to know how certain flowers received their names. Many were named after people. For instance, the fuchsias were so called because they were discovered by Leonard Fuchs. Dahlias were named for Andre Dahl, who first brought them from Peru. The camellia received its name from a missionary named Kamel, who carried specimens of this flower from Japan to France. The magnolia was named in honor of Magnod de Montepelier. Other flower names are descriptive. Lady's slipper resembles a tiny slipper. The blossoms of lady's tresses are twisted like a braid of hair. The flowers of the foxgloves are like the fingers of a glove. The name foxglove is said to be a corruption of "folk's glove" or "fairy's glove." Aster means star and received its name from the starlike rays of this flower. Daisy is really "day's eye." Dandelion means lion's tooth. Do you think the name is appropriate for this notched, rather jagged flower?

Anemone means "wind flower." The anemone is so delicately poised that it trembles in the slightest breeze Dutchman's breeches resemble nothing so much as a baggy pair of trousers. Morning glories bloom only in the morning and four o'clocks not until that hour in the afternoon.—St. Louis Republic.

OXALIS.

Oxalis is a plant exacting but little care in its management, and repaying with abundant bloom whatever it receives. It is a perennial plant and can be transplanted at any season of the year, and is always ready to commence a new growth. A single tuber may be potted in a five-inch pot and it will soon require all the space. The plant blooms very profusely and for a long time, although after awhile the foliage and the flowers come smaller and the bloom decreases in amount.

MILDEW.

The Crimson Rambler and some other roses are occasionally subject to mildew. The common remedy is to dust a mixture of equal parts fresh slaked lime and flowers of sulphur, over the foliage, using a porous sack as a dust bag, thus distributing the material evenly and thinly. A liberal dressing of the same mixture stirred into the surface soil about the plant will also prove beneficial in warding off the attack of mildew.

ARBOR DAY.

Ireland is trying to re-establish its claim to be known as the "Island of Woods." It is interesting to know that an American importation, "Arbor Day," is being made use of largely in furthering the ends of forestry.

Since Arbor Day started in Nebraska thirty-five years ago its observance has spread all over the United States. The tangible result in this country has been the planting of over six hundred million trees, for the most part by individual school children, besides the interest aroused in animate and inanimate nature and in forestry. In Ireland a similar movement is now fairly launched and is rapidly spreading throughout the country. The time set for planting trees is in the fall, instead of the spring, as in most American States, viz., the week commencing October 29th of each year.

Last year a circular was issued by the Irish Forestry Society to all the bishops, clergy and public bodies urging them to organize an Arbor Day in the various districts. A hearty response was received, and the support came from all sections of the community, from peers, peasants, clergy and artisans, not omitting the school children.

PECULIAR TREES.

California has one tree which is the personification of mystery. Found nowhere else in the world, it had a mysterious origin and thrives in a region of mystery.

The Mojave yucca is a vegetable freak which has developed into a species. It has the characteristics of several plants, to each of which no relationship can be traced.

It is an endogen, yet its bark shows concentric rings such as characterize the exogenous stems. It lives and thrives in great numbers in a region nearly devoid of vegetation, in a land of heat and thirst and barrenness.

Another tree in California which has a peculiar personality is the creeping oak of Monterey.

Nowhere in the vegetable kingdom can be found so true a representative of monopoly. This tree is of gnarly growth, its limbs, like those of the sycamore, bending and twisting in all directions.

Wherever a branch touches the earth it takes root and becomes, as it were, another trunk, though still a branch of the main stem, drawing nourishment both from the parent stem and from the new source. In this manner the tree is spread till it has taken possession of five acres of ground and it is still advancing.

Most wimmen like tew git a hull lot fur their money till they hap'n tew git inside of a shoe store.

Some men greet you as if they wished their voice were a club.

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Thursday, October 31, 1907

Cultivator Publishing Company

STEADMAN & PERKINS

J. J. STEADMAN, Editor

H. A. PERKINS, Manager

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C. B. MESSENGER - Associate Editor

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S. A. PEASE	Plant Diseases and Injurious Insects

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TO OUR SUBSCRIBERS.

During the past few years the Cultivator has handled subscriptions through traveling solicitors, and many of our subscribers are expecting these solicitors to call on them at least once a year. Hereafter we shall handle the subscription business from the office, and discontinue our traveling solicitors with the exception of a very few districts in the State, and in that case they will be provided with proper credentials.

The Cultivator is so widely known through out the State that it is not necessary that it should be represented by traveling solicitors. But our 12,000 subscribers can aid us materially in securing new readers by calling attention of new residents and non subscribers to the value of the paper.

The Cultivator has no peer in its line on the Pacific Coast, and we shall depend on the co-operation of our subscribers to extend its circulation and influence. We trust we shall receive suggestions, criticisms and even praise, should it be deserved, and in this way come in closer touch with our subscribers, and be the better able to determine their needs. It is the aim of the Cultivator to be educational, strictly reliable and progressive, and to this end every energy will be bent and every endeavor exerted.

In this connection we wish to say that statements will be mailed to our subscribers as fast as possible showing the status of their account on our books, and while it may be several months before we can reach them all, it is our intention to place the Cultivator on a strictly cash in advance

basis. In the mean time those who are in arrears will do us a favor by remitting their account. The date of expiration is shown on each paper immediately after the name. For instance, John Smith, 10-07, means that his paper is paid to October 1st, 1907.

AMAZING PROSPERITY FOR FARMERS.

The statement is made by several reliable statisticians in the agricultural press that the earnings of the American farmers in 1907 may be greater by many millions than last year. The Orange Judd Farmer of September 7th puts the figures at upwards of one thousand millions dollars, which is corroborated by the Philadelpha Farm Journal.

This is certainly a stupendous showing for the agricultural class in this country, when we reflect that the farm output will be about ten per cent less in quantity this year than last, we wonder where the enormous gain in wealth is to come in 1907. But we must bear in mind that the crop this year is an average for the five years preceding 1907, and with the increased demand for our products the difference in the earnings of 1906-1907 is accounted for. As the Orange Judd Farmer states it, "it is because of decreased quantity and increased price, the leading staples this season will net over \$500,000,000 more to the farmers than last year, while their total gains may be almost twice as great."

There has never been a time when the farmers of the United States were in so healthy a condition, in every way, as at the present time. His real estate has grown in value beyond all expectation. Instead of being a borrower he is a lender. He has more and better stock than he ever had. He has more farm machinery than he ever had and his home is so much improved over past conditions that it vies with his town neighbor in its appointments and luxuries. His children are being educated and his wife dresses better than she has ever dressed. So with the farmer himself. Hence we have a condition, socially, politically, mentally and spiritually which has not existed in the previous life of the American farmer. His future is full of promise.

OREGON'S PLAN.

Oregon is the first State on the Pacific Coast to adopt the initiative and referendum as a Constitutional amendment. Previously, half a dozen States had adopted it, and as many more considered it during the sessions of their legislatures. The plan seems to be taking and is decidedly popular in States whose political policies have been dominated by corporate interests.

As a general proposition the initiative and referendum has many strong points to recommend it to the people. What it is intended to do is to make legislators and other election officials represent somewhat accurately the people who elect them. The contention made by the opponents of the plan that it emasculates legislative bodies like legislatures and City Councils has no basis in fact. It simply makes the members of these organizations more directly amenable to their constituents, and puts in the hands of the people a direct power to remove dishonest or incompetent officials who misrepresent those who elected them. It renders impotent the schemes of corporation grafters to rob the public, and makes redress possible by recalling those who would, by their votes, fasten iniquitous legislation on the people. The Portland Oregonian, the leading newspaper of Oregon, in speaking of the new law adopted in that State says:

"The entire animus of the opposition to the initiative and referendum in this State is the desire of a few millionaire owners of public utilities to dodge their taxes. The representative principle is preserved here and the effect of our system is to make it honestly representative in fact as well as in name. Oregon is not a 'pure democracy.' It is, however, a 'genuine democracy' of the type that President Roosevelt commended in his speech at St. Louis. It is government 'by and for the people,' such as both Lincoln and Roosevelt have praised. Mr. Roosevelt added in that same St. Louis speech, 'the theory of our Constitution is that each neighborhood shall be left to deal with the things that concern only itself,' and that the

average citizen, the plain man whom we meet in daily life, is normally capable of taking care of his own affairs.' If these remarks are sound we think they are, there is very little danger the Supreme Court of the United States will nullify the initiative and referendum laws of Oregon or any other State. They are matters which concern ourselves alone, and they give the citizen the opportunity to take care of his own affairs."

The general proposition embodied in the initiative and referendum we believe to be sound in line with the progressive tendency of the times to secure honest representation from those elected to make laws for and to protect the people.

ADVANTAGE OF DRAINAGE.

The desirability of under-drainage can be summed up as follows:

Under drains remove free water from two or three feet of surface soil thus: Admitting water into the soil; assisting in the decay of plant life; extending the root space; assisting plants to withstand drought; hastening the time for re-vegetation.

Under drains improve the texture, thus: make it possible for root hairs to touch more soil particles; permitting warm showers to sink into soil rapidly.

Under drains cause the soil to be warmer by checking evaporation, using the sun's heat to warm more soil and less water; lengthening the growing season.

WILL YOU SEND US A NAME?

Will every reader of the Cultivator make an effort to send in one new subscriber between now and December 1? This is an easy matter for you and it means very much to us.

"Every American citizen has the right to be protected in his efforts to earn an honest livelihood. No man or combination of men should have the power to prevent him from following his vocation, even by intimidation, for he may have only himself but a wife and children for whom to provide. It is my opinion that the honest laborer who is willing to do work which is proper in no way conflicts with the interests of the community should be given the opportunity to perform it and to have the same protection from authorities which is extended to any peaceful citizen, no matter how powerful or influential. It should be the person or society which opposes him—Cardinal Gibbons in Putman's.

Of more than passing interest to California is the verdict rendered in the Santa Fe rebate case tried in the Federal court at Los Angeles recently. The verdict of guilty carries with it an enormous fine, even at its minimum. It might be as high as \$1,320,000 and it cannot be less than \$66,000. The proceedings go to show the great danger transportation companies invite themselves in when they violate the Sherman anti-trust statute.

"The Cultivator is the home maker's guide for California," writes John Wentworth, of St. Paul, Minn. Rosa.

That puts the status of the Cultivator where it belongs. It is in every sense the "home maker's guide." Follow its teachings intelligently and you will not fail of success.

The America Association of Farmers' Institute workers was held in Washington, D. C., October 23, 24 and 25. E. A. Burnett of Lincoln, Neb., is president and Jno. Hamilton of Washington, D. C., is secretary.

Turkeys and chickens are good scavengers in the orchard, as they destroy many of the insect enemies, and also, eat any fallen fruit, which is often a harbor for protecting and developing myriads of destructive pests.

Making good roads is a good medicine for a tramp. He has worked the roads so long he ought to know just where to hit them to the great advantage.

Agricultural Notes of the Pacific Coast

Northern California

Colusa county, are busy packing and stemming raisins.

Shasta county is to have a new creamery at Anderson.

Olive picking has begun in many of the earlier districts.

The city of Willows has bought land for a sewer farm.

Articles of incorporation have been filed by the Colusa Irrigation Company.

Extensive forest fires did much damage in the range back of Placerville last week.

Most grapes have been shipped and the recent storms will do little damage to vineyardists.

A large tract of land has been purchased near Sisson which is to be subdivided into small tracts.

Glenn county rice is said to yield fifty bushels per acre. One owner has a sixty-acre field planted.

A farmer having land on Sherman Island made the neat sum of \$700 per acre on his onions this year.

Poultry ranchers starting their incubators so early is claimed to be the cause of the high price of eggs.

Thousands of vines will be planted this season in the Sacramento valley owing to the profitable grape year just closing.

Large quantities of cattle are being shipped from Yerka. The cattle are in fine condition from the rich summer pasture.

Two ranchers near Woodland, California, are charged with having started forest fires in order to produce better sheep pasture.

There will be much planting of asparagus to make up for that which was drowned out along the Sacramento river last year.

The Alta-California Beet Sugar Company is signing contracts with farmers of Butte, Glenn and Yolo counties for beets for next year.

Orange picking has begun around Loomis, Penryn and Rocklin four days earlier than last year. The fruit is said to be fairly well colored. The first shipment will be made to Australia.

The State farmers' institute is to be held at Davisville next week. Residents of that section are planning for fine entertainments for the visitors.

Dairying about Dixon is proving to be extremely profitable, and the farmers are being paid in advance of the market price of butter fat by the creamery.

Farmers at Santa Rosa are preparing a good program for the institute to be held in that city November first and second. One entire session is to be devoted to poultry culture.

Owners of large acreage near Maxwell are subdividing the land in five to forty-acre pieces and contracting to give the land to parties who will care for it, and adjacent land for a period of years.

A report of the Suisin creamery shows that for the past year the output of butter from that establishment has been one hundred and ninety-five thousand four hundred seventy-one pounds, and that \$47,471 was paid to dairymen for butter fat.

Central California

Tulare is spraying for shothole fungus.

Porterville began shipping oranges last week.

The cheese factory at Tulare is about to double its capacity.

Watsonville is exhibiting corn stalks eighteen feet in height.

Orange land in Tulare county is said to be increasing in value rapidly.

Parajonian says that Newton pippins are coming in rather wormy this year.

San Jose grange is discussing the question of woolly aphis and peach borer.

A large number of peach trees are to be planted in the neighborhood of Tulare.

The Palm Fruit Company of Wasco is to construct a fruit dryer before another season.

Aromas, San Benito county, is rapidly becoming one of the great apple growing sections of Pajaro valley.

Prof. Anderson reports the quality of the stock exhibited at the Tulare County Fair as being of a very high grade.

The patrons of husbandry of Tulare, Orosi and Dinuba have organized the Patrons' Mutual Fire Association of Tulare county.

Scraper teams are at work in advance of the dredger that is being built on the drainage canal in the Modesto irrigation district.

The loss by fire of the apple drying house of the Pacific Evaporating Company recently caused heavy loss to apple growers whose apples had been delivered.

The Bakersfield Echo says that there is good news for the people of north Kern county, as a large stock ranch is to be cut into small parcels and sold to settlers.

The civic section of the women's club of Bakersfield devoted the afternoon recently to discussing flower raising as a means of adding to the beauty of communities.

A band of 2400 live turkeys purchased in Merced county was driven through the town of La Grande last week. The bunch cost in the neighborhood of \$4000.

A mass meeting was held at Modesto last week when the sum of \$6500 was pledged as a starter for a cannery fund at that point. Twenty-five thousand dollars will be needed.

The California Game & Fish Commission is offering a reward of \$20 for each scalp pelt of the California lion or panther. This is in the interest of the California stock industry.

The citrus fair arrangements of Tulare county seem to indicate a more successful fair than ever. The county supervisors have given a \$1000-encouragement fund, while Porterville donates \$500 to aid Lindsay in making this a great fair.

The Tulare County Times thinks that the weather has been so perfectly fitted to local conditions this year that some San Joaquin valley farmer has at last passed through the pearly gates and has been assigned the task of dealing out weather to that section.

Southern California

Early rains at Hemet have amounted to 1.55 inches.

Ranchers at Hemet are rushing the work of putting in grain now.

Tulare county dairymen are buying cows in Orange county, expecting to take three carloads in November.

Walnut men are getting better organized in their fight against the Anderson-Barngrover Company's patents.

The gathering of walnuts is said to be very economical this year, as nearly the entire crop has been gathered at one picking.

The rain storm, general over Southern California last week, varied from one-half an inch to one and three-quarters inches.

Orange County Poultry Association is planning for its first show. O. M. Robinson is president, and F. H. Holbrook is secretary.

One of the coöperative produce companies in Imperial already has three hundred and thirty-eight acres of cantaloupes pledged.

A Ventura walnut grower drove to the packing house with a load of walnuts last week for which he received a check for \$1300.

Ventura bean ranchers whose beans were not threshed prior to the rains have been greatly injured by the moulding of the beans.

Imperial farmers have met and organized for the coming season's cantaloupe crop. T. P. Banta is president of the organization.

Rain has caused no damage to the walnut crop which is, perhaps, three-fourths gathered. In fact, it has caused them to drop more rapidly.

The San Joaquin ranch in Orange county produced one hundred thousand sacks of beans this season. About equally divided between black eyes and limas.

Orange growers near Highlands are to be able to secure box shooks from the box factory near that place at a much lower rate than the trust has charged this year.

Riverside Press says that the impression is growing that from splits and other causes the orange crop will be lighter than last year.

Members of the California Fruit Growers' Exchange will soon establish a \$500,000 Growers' Supplies Company to produce orange packing boxes.

The Coachella Valley News says: "Coachella Valley is the paradise for hogs and with few acres of alfalfa to turn them into occasionally, much better results can be obtained."

Southern California papers are having much amusement in figuring on the coming orange crop, estimates varying all the way from a very light crop to the very heaviest ever.

The large number of artesian wells near Santa Ana have proved very profitable aids to irrigation in that section, and much money has been made by farmers using artesian irrigating water.

The Orange Height's Fruit Association of Corona have elected the following directors: Jacob Stoner, Frank Thompson, Wm. Sargent, L. A. Fink, A. R. Whitmore, L. R. Nichols and I. H. Moore.

The Coast

Hay in central Alaska is now commanding from \$200 to \$300 per ton.

Utah College people are planning for the greatest institute season ever for this fall.

The annual fair of the Grange at Oregon City, Oregon, eclipsed any previous display.

About fifteen thousand sacks of grain is the daily receipt at Wash-tucna, Washington.

Apples at Garfield, Washington, brought the owner a total of \$11.60 per tree for the entire orchard.

Farmers near north Yakima have worked together in buying hay balers which has proved very profitable.

The Hood River, Oregon, fruit growers are organizing for the purpose of better marketing facilities.

The high price of camphor is causing extensive plantings of the camphor tree on many islands of the Pacific.

The greatest crop ever raised in the Flathead valley near Whitefish, Montana, is said of its potato yield this season.

Nearly all barley in Oregon, at least in portions near Portland, have passed from the hands of the producers.

Official statement is made that the Burmuda onion crop of Texas this year will bring a net profit to the raisers of \$840,000.

The export of \$7,000,000 worth of ostrich products from South Africa would indicate possibilities for that industry on the Pacific Coast.

Stockholders in the co-operative creamery at Palouse at a recent meeting decided that the co-operative venture had been a complete success.

Farmers' Institutes in Washington are to be conducted November 1st at Angeles, November 2d at Seguin, November 4th and 5th at Quilcene.

Public stock sales near Pullman, Washington, have resulted in exceedingly high prices for dairy cows. One entire lot sold for an average of \$69.

Amongst the chief exhibits in the Montana county fairs this fall has been the products of non-irrigated land, or the so-called dry farming products.

It is suggested that the cotton growers of Texas be forced by legislative action to stop planting cotton in infected sections until the weevil has been exterminated.

In a dry farming contest at the Interstate Fair held at Spokane recently the prize was taken by a farmer who produced one hundred pounds of potatoes in twelve hills.

As great as Colorado is regarded as a mining center with its yield of eighty millions of dollars from the mining industry, it received an income of one hundred and twenty-five millions from agricultural products.

The bankers of Texas have agreed to stand behind the cotton growers and advance them money to aid them in holding the cotton crop, so as to stand off the cotton speculators who are combined on a low price campaign.

The first opening of land under the Carey Act in Colorado occurred September 5, when the Little Snake River valley, in Routt county, was thrown open. The area comprises some 50,000 acres, which will be watered by a canal dug by the Routt County Development Company of Denver.

PER 1 BUSHEL SACK **\$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by all largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Hap-hazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledge standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland.
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis and Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 639 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

Beef Scraps Raw Bone

GUARANTEED ANALYSIS:

Protein.....65%
Fat.....8%

Made of Cooked and Dried Livers, Lungs, Melts and Clean Scraps. No fertilizer ingredients in these Beef Scraps.

Pure, Clean Animal Matter Poultry Foods

WESTERN MEAT COMPANY SOUTH SAN FRANCISCO CALIFORNIA

GUARANTEED ANALYSIS:

Protein.....25%
Phosphates.....45%

Made of Clean Beef Bones, surplus fat removed. Cleanest Raw Bone on the Market.

Lincoln Avenue Poultry Yards

—Capt. Mitchell's S. C. White Leghorns—

Utility birds of the highest grade. They will average from 150 to 280 eggs per year. The eggs will average 2 ounces and over in weight, with smooth, white shells.

Just a few breeders left at half price. **Positively no culls.**

Carl C. Curtis, Owner

Ranch Mirasol

Lincoln Ave. and Ventura St., Pasadena, Cal.
ALTADENA CARS

Clover Cutter

Every Chicken Raiser needs one.

Price \$7.50

All orders shipped same day received

Arnott & Co.

Los Angeles St., bet. 1st and 2nd
Los Angeles California

Beef, Blood and Bone Will Make Your Hens Lay

This is not a medicine but a high grade nitrogenous food. Write for free booklet "How to make Hens Lay." Our Poultry Foods are sold by all local dealers and manufactured solely by

The Pacific Guano and Fertilizer Co., Indiana and Yolo Sts., San Francisco, Cal.

Also Pioneer Manufacturers of High Grade Fertilizers. Write for our free booklet, "Farmer's Friend." Valuable to all farmers and ranchers.

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experiences with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

AMERICAN POULTRY ASSOCIATION.

AT A meeting held in Los Angeles recently, a branch of the American Poultry Association was organized. Perhaps many of our readers are not familiar with the American Poultry Association and its objects.

This association is to the poultry industry what the National Live Stock Association is to breeders of live stock. It has done more for the advancement of pure bred poultry than any other, or perhaps than all other clubs and organizations that advocate standard bred poultry. While we believe in specialty clubs and think they advance and perfect the different breeds, yet when the general interest all along the line is advanced, it is generally through the A. P. A.

Every show held in the United States and Canada is governed by rules laid down by this Association. The Standard of the different breeds was made by it, and from this Standard the judges get their instructions for judging.

Illustrated Standard.

At the last meeting held at Niagara Falls in August, the Association decided to issue breed standards, or separate standards for each recognized breed. This Standard will contain illustrations of the male and female, printed in the natural colors, and will describe each section of the breed. In fact, will give all information that is desired of the breed. The illustrations will represent what an ideal or perfect bird should be, and will give more of a general description than the present standard.

Several years ago when the A. P. A. decided to issue illustrated standards, many said that the Association could not afford to issue at a cost that would permit the average breeder to have one, but the sale exceeded any previous edition. We believe it will be the same way with the individual breed Standard.

Branch Associations.

The object of branch associations is to work the local field, secure new members, find what the needs of the breeders are, and recommend that the general association act on same. Each is also allowed delegates to the annual meeting. We understand that it is the intention to furnish lectures for farmers' institutes, thereby giving the breeders a chance to hear the best and most successful engaged in poultry culture.

The life membership fee is \$10, with no dues and no assessments. Half of this money remains in the treasury of the branch association and can be used in paying expenses to the annual meeting.

California Representation.

Not many years ago President Holden and Secretary Orr came to California and organized a branch of the association, making many promises as to what the association was going to do for our State. Well, we still have these promises coming to us.

At the last election, California put up as good a man for a member of the executive committee as was on the

list, yet he was not elected. Yet feel that we will have a representative some day, for our friend Miller Davis, who is a member of the board, promises to move to California some time in the dim and distant future, until that time we will have to be content with our one branch of the association. However, California never did run much to "politics" and the breeders are willing to forget the past and are determined to have one of the best branches of the association. I propose to have such a large show at the next election, that some of our friends on the other side of the divide will sit up and take notice.

AROUND THE YARDS.

When fowls are confined in yard feed liberally of green food.

Pullets should be well matured and mated to a vigorous males, for best results.

A successful poultryman says that his eggs cost most when his hens are fed on too exclusive grain diet. To reduce the cost, he fed liberally shell, cut alfalfa, bone and vegetable

To be successful you must use your head as well as your hands.

Filling the water fountains, grit and shell boxes when you feel like it do not add to poultry profits. It's doing the things when needed that counts.

Take lessons from the older and more experienced poultrymen. They know some things you have yet to learn. But don't be afraid to do some experimenting on your own account.

The young poultryman should not be discouraged by temporary failure and disappointment. He should take courage in that those enjoying success were one time where he is today.

The lessons we seem to pay for the dearest are, after all, many times the most profitable lessons.

Scalded poultry is best for private local trade.

Feeding skimmed milk has a tendency to whiten the flesh.

Games crossed make better table poultry than do the games in their purity.

Dry-picked poultry will stand longer shipment than will that which is scalded.

The flesh of the fowl is as easily tainted with bad food as is the contents of the egg.

Epicures will always prefer fresh-killed poultry to that which has been placed in cold storage.

Fowls should be dressed immediately after being scalded, even when the scalding method is practiced.

There is not enough profit in the cramming system of fattening to warrant the practice being followed in this country.

Greasing eggs to make them shine is a bad practice. Grease fills up the

pores of the shell, and quick decay is the result.

Good management is the secret of success, and bad management is the cause of the so-called "bad luck." There is no such thing as "good luck" and "bad luck" with poultry; it is all in the management.

The presence of the tapeworm in turkeys may be noted by a droopy condition of the afflicted birds; small portions of the worm will also be found by careful examination of the voidings. An authority says powdered male fern is an effective remedy for tapeworm.

The introduction of the trap nest in the hen house will at once point out the fact that every flock has one or more drone hens in it—"robber hens." Weed them out. They are not only unprofitable in themselves, but they consume the feed and take up the room the good hens should have.

While certain breeds are more inclined to yellow skin than others, the fact remains that even naturally yellow-skinned fowls can have the color of flesh changed by feeding accordingly. Corn and cornmeal is the proper food for producing yellow carcasses while fattening, while buckwheat has a tendency to whiten the skin.

Exercise good common sense in the management of poultry, bearing in mind that it is usually some little detail, something rightly attended to at the proper time or carelessly left undone, that turns the scales either to the side of profit or loss. Nothing will bring success so quickly as intelligence and faithful attention to all the small matters.

Please tell me how to rid chickens of fleas, more like a tick or a combination of both, that gets on chickens' heads. What effect will it have on the chickens and how can they be gotten rid of?—A. Subscriber.

Fleas on chickens are quite annoying, but can easily get rid of them by spraying your house with an emulsion of distillate and crude carbolic acid. For birds that are affected, apply salve, or lard and sulphur.

What is the cause of limber neck, and is there any known cure for it? Have lost three with it; do what I would I could not help them. Other diseases I have had a fair degree of success with.—Mrs. M. F., Anaheim.

You should first look for the cause and remove it. We believe you can easily locate it if you look. The disease is caused by birds eating decayed meat or maggots; it is also caused by hot weather, but at this season it is not so apt to be caused by heat. Remedy: One teaspoonful of hyposulphite of soda to each quart of drinking water. When trouble is first discovered give one asafoetida pill the size of a pea.

THE REASON.
"My son is going to be either a great financier or politician."
"Does he take an interest in such things?"
"No, but he's got to make a living somehow, and he just won't work."
"Bilkins tells me he is getting awfully tired of living alone. I would think he'd marry and settle down I was talking with him about it the other day, and he says he doesn't know whether to get married or buy a phonograph."—Milwaukee Sentinel.

WINTER EGGS.

If winter eggs are desired, it is of much importance to have the hens shed their feathers as early as possible, so as to be enabled to get their new feathers fully grown before the cold weather begins. In case molting is much delayed, the production of the new coat of feathers in cold weather is such a drain on the vitality of the fowls that few eggs are produced till spring. While, if the molt takes place early in the season, the fowls begin the winter in good condition and with proper housing and feeding may be made to lay during the entire winter. To help the hens to an early molt, withhold food either wholly or in part for a few days till the feathers begin to drop pretty freely, then feed heavy on a ration suitable for the formation of feathers and the general building up of the system. Lots of green cut bone and meat scraps in addition to their grain ration is good for this purpose. Mature hens, when fed sparingly for about two weeks and then receive a rich, nitrogenous ration, molt more rapidly, and with more uniformity and enter the cold weather of winter in better condition than similar fowls fed continually during the molting months on egg-producing ration. Bone food, warm mash and plenty of scratching litter are the important things, after getting them over the molt; and with care, any farmer's wife can enjoy the luxury of winter eggs.—Kansas Farmer.

GAPES.

Gapes among chickens is a difficult disease to overcome, but some remedies have been found to be quite effective. Wheat soaked in turpentine and fed to gapey chicks has been found to give relief. In addition to this, sprinkle air slaked lime on the bottom of a box and put the chicks into it. Inhaling the lime will cause sneezing, which will in turn cause the gape worm to be ejected.

It also might be a good idea to sprinkle the air slaked lime about the ground on which the chicks are accustomed to run. Moth balls are perhaps as good for a disinfectant as anything you could use. They should be sewed up in pieces of old cloth about six to a bag.

Just what causes the gapes is a disputed question, but a good disinfectant will do no harm and may do considerable good. Cleanliness is another thing which should always be considered, especially in relation to pure water.—Farm Progress.

Now is the time to look over the chickens and separate the culls from the breeders. All cockerels not to be sold or kept for that purpose, as well as such pullets as do not come up to the standard should be fattened and sold. If one cares for the beauty and uniformity of the flock, discard all that are off in color of legs or plumage as well as those which show abnormal characteristics of any kind. This weeding out process will leave more room for those remaining besides bringing in as much money as though the birds were fed longer, for with the increase in weight of chickens, there is a decrease in price per pound which makes it unprofitable to keep them longer than is absolutely necessary to grow them large enough for table use.

GOOD INVESTMENT.
I am much pleased to subscribe for your paper and consider the investment of \$1.00 per year a good one.—H. L. Granger, Fresno.

50 Cent Eggs

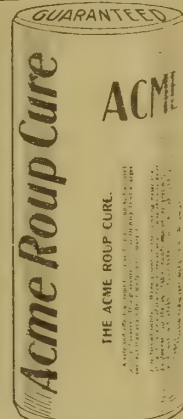
You may feed grains alone until doomsday and you will never get many of them. You must supplement grains with some highly nitrogenous food, rich in protein, to keep the hen in good health, build up her system and furnish her with the material for making eggs.

Egg-More

is just this and nothing else. It is not a strong tonic and stimulant, but contains enough condiments to give the food relish and keep the fowls in fine fettle. Just a little fed daily with good grains, or even with bran will do it. It can be fed either dry or as a mash. The hens like it, they eat it, there is no waste. It makes the very cheapest Egg Food, especially if you can buy your grains at home cheaper than to ship them in. The cost is but a very small per cent of the increased egg production. 4-lb. package, 35 cents; 25-lb. pail, \$2.00; 50-lb. sack, \$3.75. If your dealer doesn't keep it, we will deliver a pail or sack freight prepaid by us.

West Coast Stock Food Co.
818 San Fernando St. (Through to Alameda) Los Angeles, Cal.

LARGEST POULTRY SUPPLIES HOUSE IN THE UNITED STATES



Acme Roup Cure

Cures Roup and Colds


How? It's dead easy. Just place the medicine in the water, the fowls drink, and before you know it the fowls are cured.

50c and \$1.00 per Tube, Postpaid

Henry Albers Co. 315 So. Main St. Los Angeles

Do Not Stop

Now is the time to feed A. C. W. Egg Food to the hens that are able to lay and want to lay 45c eggs, but can't. Why? Because you, Mr. Poultry Raiser, are not feeding them right. How long could you work if you did not get proper food. Do not blame the hen. It is up to you to get 45c eggs and plenty of them. Others do. You can, too.



EGG FOOD
A.C.W.
IT FILLS THE BILL

Agricultural Chemical Works
Manufacturers of Poultry Bone, Beef Scraps, Blood Meal, etc.
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Baby Chicks

All Standard Breeds

We are the pioneer hatchers in this section. Chicks can be shipped 1,000 miles without loss. Our chicks are hatched in a 25,000-egg incubator and are strong and healthy. We make no extra charge for crating and can sell cheaper than any others in this line. Write us for prices on any Standard Breed in any quantity. Eggs from all breeds. Incubator Lots a specialty.

FEED CHICKS DOKE'S CHICK FEED.

Doke Stock Food Co.

711 So. Main Street Los Angeles, Cal.

FERN PARK POULTRY RANCH

EGGS FOR HATCHING

All Eggs are from good, strong vigorous stock.



WYATT & WOLLITZ, Proprietors
—Breeders of—
Single Comb Buff Orpingtons
White Rocks and
Indian Runner Ducks

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Beef scraps 7 lbs. 25c 3.00 Cwt
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Some Egg Foods are sold per sack which vary from 75 to 90 lbs. Get 100 lbs. in yours.

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Egg-More 4 lbs. 25c; 1.60 per 25-lb. pail.

The biggest seller on the market today. If you haven't tried it you ought to, and this is your chance

The above prices are but samples of our cut rates. The prices of everything in the store are cut in the same way. Come and see. Or if you can't come let's Get Acquainted by mail. Don't forget that there is none better than the IMPROVED PACIFIC INCUBATORS, and they are included in this sale. We shall keep open store until 9'clock, Tuesday, Thursday and Saturday evenings during the sale. Come and see us.

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All my hens are tested layers. Prize winning, large egg laying strain. Come and see my exhibit at the two following shows: San Jose, Cal., Nov. 11th to 16th, '07; Los Angeles County Poultry Association, December 5 to 14, '07. **Mammoth Bronze Turkeys**

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Insist on LILLY'S

Care of Bees

MAKING ARTIFICIAL SWARM

WE HAVE not yet learned how to prevent swarming, but can do the next best thing, can swarm the bees when we ready, and thus do away with the certainty attending the matter left to the bees entirely. What do with the combs of brood which the bees have been taken now a solved problem. We get them to weak colonies, or put them on top of the swarm. I have for number of years practiced shaking bees off their combs at the approach of the basswood honey flow, and must say the plan is all right, practically cures the swarming that season; in fact, is as good a cure as swarming itself, writes F. A. E. man, in Coleman's Rural.

But there are several things to be taken into consideration when making the plan. First, we ought to wait until queen cells are under way, for, if we do not, such a colony will not swarm nor offer to. We are much ahead in saving labor, though it can be done if the hive is very populous; but we must be very careful to cause the bees to fill themselves with honey. The following is my method for making swarms. For instance, if a colony is examined and we find queen cells started, a hive is prepared with start. About six frames is the number I use, but never more than seven. Now we find the queen and set the frame she is on to one side. Before the colony should be smoked and handled somewhat roughly so the bees will fill themselves with honey. Next we take a newspaper and spread it down in front of the entrance to the new hive, for you will be in shaking the bees off, shake a little of their honey onto the mass of bees in front of the hive and, unless the place is very clean, many bees will become so daubed up as to perish hence the necessity for using a paper.

Shake most of the bees off the frames close to the entrance. Use little smoke so they will run quickly and clean themselves with honey in the hive. Now take the frame the queen is on, pick her up with the fingers, or take a piece of glass and scrape her off the comb down close to the entrance and that she goes into the hive. I do not know why it is, but queens seem to find it harder to get into the hive with these swarms than at any other time. If there is a hole or any other access in sight which they can get into instead of going in at the entrance they seem bound to do it. I do not place the old hive and combs on top of the swarm, and in ten days the bees are again shaken down in front of the swarm. They can be shaken clean now, and the combs of old brood can be given to nuclei, or used elsewhere, as one wishes.

The beauty of the whole thing is we have the swarming problem under our thumb. Look over the hives once a week during the swarming period. If a colony shows queen cells it is safe for another week. If the bees have them under way, shake them and there you have it.

I find that this method has several advantages over natural swarming. In the first place, we do not have to watch for swarms a great part of the time and, where our apiaries are run, a great saving

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TRAP NESTS.

Trap nests are built to tell you which hen laid the egg, and how many eggs she lays in a given time. Of course, where the hens lay in the haymow, weeds and anywhere you cannot follow them up with trap nests very well, but where you provide laying houses and plenty of nest boxes you can surely, with one or two hundred hens, pick out enough to start a laying strain with.

The old barnyard fowl averaged about 36 eggs in a year. In government reports every hen now is listed with an average of 75 eggs per year. But to make up the average in any flock bunched together at random, a few hens must do nearly all of the laying.

Those who have used the trap nest system of discovering the hens that lay the eggs, made some discoveries. They found hens that did not lay six eggs in a year, and others that did not lay twenty-five, while others range from 125 to 200.

A great milk cow may not produce cows quite her equal in milk-giving powers, but it is from her we make choice of future cows. Hens of great laying powers go the cow one better, for in nearly every case they produce hens their equal, and not only this, but transmit the laying power through the other side, male birds of such mothers being used in building up a laying strain.

Trap nests are dear, but in buying half a dozen or a dozen you get a big per cent off. Then I notice a firm once in a while advertising the trap, you making the wood part of the nest yourself. This makes it cheaper. One handy with tools can make trap nests himself.

Enough could be used to pick out at least twenty or more hens that lays 125 or 150 eggs a year and these in turn could be marked with numbered leg bands to start another year with an egg-laying strain of your own. Egg-laying contests the world over have shown that it is not in the breed, but in the strain of any good breed that you get the great layers. Better keep that kind than a hen that lays but six or twenty eggs.—Ida M. Shepler, in Successful Farming.

ie result. More honey is obtained, because of the swarming is done at the commencement of the honey flow, the bees being brushed on frames with one-half-inch starters with an excluder on. Supers are given filled with drawn combs and the bees simply have to store them, as they have no other place to put the honey.

The honey is also capped whiter. As you well know, we get whiter capped sections over newly built combs, consequently the honey will bring a better price. If one wishes for some increase, there is no nicer way than to give a ripe queen cell to combs of brood. When the queen is ready to lay she will find empty cells, and the colony will be in fine condition for the autumn flow, or for wintering. If hived comfortably and in a suitable place to work, there will be very little difference from the natural way.

HIVE-LUMBER SITUATION.

Beekeepers have been greatly exercised for some time over the high price of hives and other bee supplies made of wood, and some have flattered themselves that in time prices would come down. There does not seem to be much hope for this consummation; on the contrary, all signs point the other way for, according to a recent bulletin issued by the Forestry Bureau at Washington, we are using up the white pine forests at least three times as fast as we ought to, though at present we are using only half as much as we did in the latter eighties.

At the annual meeting of the Northern Pine Manufacturers' Association in Minneapolis, January 22, 1907, the secretary J. E. Rhodes, made this statement:

"Since 1895, 248 firms, representing an aggregate annual output of pine lumber of four and one-half billion feet, have retired from business, due to the exhaustion of their timber supply. Plants representing approximately 500 million feet capacity which sawed in 1906 will not be operated in 1907." It may be argued that we might use some other lumber—for example, cypress or Douglas pine; but this would hardly help us, for the freight rates on either are very high, as one is produced in the extreme South and the other in the extreme Northwest.

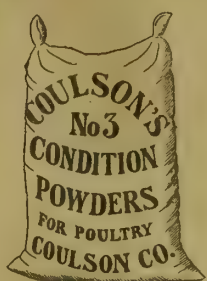
Of course, we might use substitutes; but, unfortunately, these are dearer in the end than good white pine. It must be borne in mind, also, that beekeepers demand the very best lumber in their hives.

Luckily the ordinary beekeeper uses only a small amount of lumber each year.—Gleanings.

BIRDS THAT EAT BEES.

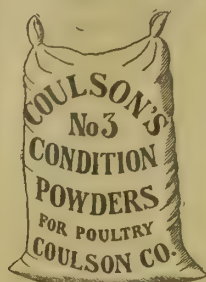
A British beekeeper writes: Having read about birds, when catching bees for food, carrying off drones and not workers, my interest was aroused in the question of birds and bees, and I shot several birds seen flying about my hives one day when bees were on the wing, but none of the birds killed, including swifts, swallows and martins, showed any trace of having captured bees, either workers or drones. I found lots of small flies.

Twice this year I have watched the common house sparrow snapping up bees. I drove off the little marauders before giving them time to devour their prey, and in each case the bee's head had been bitten off by the bird before eating the body.



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WE CLAIM

COULSON'S No. 3

Condition Powder

will put the flock in good, vigorous condition, not only enabling them to withstand any possible infection or disease, but enabling them to go through the molt rapidly, and to commence laying again before the cold weather sets in. We practice what we preach, by giving our own hens a little of Coulson's No. 3 Condition Powder three times a week, and although they are beginning to molt heavily, their combs are as bright and red as at the beginning of the season. You will find that it does the same with yours if you give it a fair trial. It will not only do this, but will enable the hens to digest a much larger proportion of their food and thus save your feed bill considerably. Therefore, if you wish to make money this fall and winter, inquire right now at your dealers for Coulson's No. 3 Condition Powder, and see that he keeps a stock so that you have it when you want. Where the local dealer does not keep it, we will make you a SPECIAL OFFER to deliver it freight prepaid to any Railroad Station in California, at the following prices:

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"The only kind that won't smart or dry on the face."

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THE J. B. WILLIAMS COMPANY
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Williams' Shaving Stick



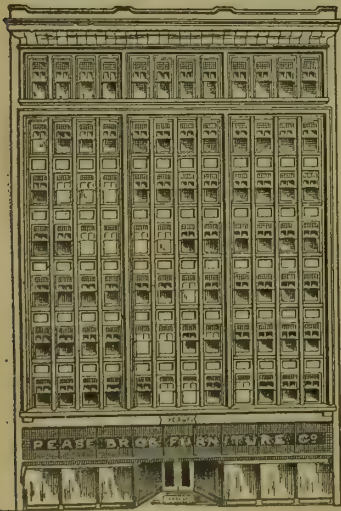
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BROADWAY AT FOURTH ST.

LOS ANGELES, CALIFORNIA

NEED OF ARID AMERICA.

Continued from First Page

brush land and government engineers may erect the finest of structures for the storage and diversion of irrigation water, but all these will prove expensive luxuries without the co-operation of the strong arm, sound judgment and tireless energy of the agricultural classes.

This brings us face to face with the weak feature of every plan yet adopted by the American nation for the reclamation of its arid lands. It also forces upon our attention the great task yet to be accomplished of reclaiming and planting five million acres of worthless desert. Before any harvest can be obtained on this new land it will cost on an average over \$20 per acre. This represents \$100,000,000. Now, neither the Carey Act nor the Reclamation Act provides for any competent supervision in the expenditure of this sum. The preparation of the soil, the construction of ditches, the selection and planting of crops, proper cultivation and irrigation are to be handed over to inexperienced settlers.

Again, the settler is forced to do this work and expend his small savings at a time when he can least afford it. His farm is still a desert. The best crops require from one to five years before yielding any profits. First year alfalfa never made any man rich, small fruits bear the second year, grapes and trees the third year. The heaviest expense comes at a time when there is little or no income. Do you wonder, then, that the weak link in our much boasted schemes of irrigation snaps under the strain, leaving a farm tenantless, a home abandoned?

Perhaps I can convey a clear idea of the assistance which might be given to new and old settlers alike by a brief reference to work recently done in California. Four years ago the California legislature provided for the joint investigation with several branches of the Federal government of the water and timber resources of the State. A part of the investigations was to consist of some of the difficulties with which farmers in irrigated districts have to contend, and was placed in charge of the United States Office of Experimental Stations. It has been my good fortune to have been connected with this work since its inception. The scope of the investigations has included the operation and maintenance of canal systems, the equitable distribution of water among users, the building of farm ditches, the preparation of land to receive water, the prevention of waste, the cost of pumping water, the drainage of irrigated lands, the effect of water on crops and the various influences and conditions which tend to retard or advance the interests of rural communities in irrigated districts.

A part of this work was new, and in its execution mistakes have been made; but the people of California have been indulgent and all classes have been willing to assist whenever an opportunity presented itself. I have not heard a single word of criticism or a doubt expressed as to its value.

How Settlers of Irrigated Farms May be Assisted.

This attitude on the part of the people of California has led me to offer a few suggestions to this Congress regarding the proper measures

to adopt to guard against the failure of irrigation enterprises bringing timely assistance to those upon whom rests the tremendous responsibility of paying for both land and water, and of making both profitable. Give one of this work class from three to five years to get his land in shape, fences built, ditches dug, building erected and profitable crops started, and he will be prepared to meet all reasonable obligations. A few years later he may have a large bank account. Do not place the same burdens on the settler of limited means at a time when he is spending both time and labor on improvements, with little or no income, and the chances are you will crush him.

One of the suggestions I have to offer is that the settler for the first and second years of his occupancy be relieved of all payments on both land and water. Instead, he should obligate himself to improve his holding to the extent of a fixed sum per acre each year. Canal companies that control both land and water and contractors under the Carey Act should afford to grant this concession. Government projects if the time allowed to pay for a water right cannot well be extended to twelve years there should be adopted a sliding scale of payments.

Another suggestion which I have to present is some measure of relief for the new settler from the burden of taxation. A few Western States levy no taxes on grapes and fruit trees until they bear. This exemption should be extended as far as is safe and practical to every immature crop and to every Western State and Territory.

Communities in newly reclaimed districts can likewise be assisted by the use of sufficient capital to establish such industries as canneries, creameries, etc. These should be organized on the co-operative plan such a way that the farmers interested will in time become the owners. Poor settlers are not able to start these industries and for lack of them their tomatoes and other vegetables are fed to stock and the dairy products cannot be marketed.

The Off-Horse.

But none of these means of assistance touches the vital part of the irrigation question. That part is simply this: Five million acres will soon be ready for settlement. An outlay of over \$100,000,000 is required before homes can be established and crops marketed. Who will supervise the expenditure of this vast sum that it may be put to the best possible use? If it is right and proper to employ the best engineering talent to design and supervise irrigation structures, the same necessity exists to employ men of equal skill to supervise that part which belongs to the agricultural side of irrigation. A teamster cannot bring his load to market if one horse drops by the wayside. In every irrigation undertaking the farmer is the off-horse and no venture of that kind can succeed unless he does his part.

If this view be correct, fully a thousand skilled men could be profitably employed under the more recently built irrigation systems. These men should be familiar with all the details of farm work and irrigated culture and possess sufficient engineering and scientific knowledge to enable them to direct

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id supervise the work of converting a desert into a highly productive irrigated farm. Canal companies, irrigation districts, State and Federal governments should share in the expense of maintaining this force.

Will be a Good Investment.

I leave to abler men the task of formulating plans for the most efficient organization of this force. That I particularly desire and advocate is the enlistment of every useful agency in support of the homesteaders. These agencies may work independently of each other or they may work in co-operation. Canal companies, for example, may employ their profit to their shareholders and hire men to direct the labors of experienced settlers. This kind of assistance has been given under Carey Act projects in Idaho and its value has been fully shown. The conversion of five-dollar grazing lands into one hundred-dollar alfalfa land and five hundred-dollar orchards is of vital interest to every Western commonwealth and each can afford liberal appropriations to help those who produce such changes. Reliance must also be placed on Western States and Territories to maintain in the highest state of efficiency the irrigation work of Western experimental stations. The small sum which is annually appropriated by Congress for this purpose is not enough to maintain a dozen lines of investigation, and too frequently the funds which should be given to this basic industry are devoted to less important subjects.

Dr. Mead has spoken of the irrigation work of the Department of Agriculture. As a member of that staff, I may be permitted to state that the field has always been so large and the problems so numerous that we have not been able to cover more than a small part of the total irrigated area. The demands of the old settlers under irrigation have taxed to the utmost the energies of our small force, and now a new difficulty is presented. The new as well as the old settlers are clamoring for advice and assistance. Instead of 11,000,000 acres to look after, there will soon be 7,000,000, and we have neither the means nor the men to meet this demand.

Veterinary Instruments, Black Leg and Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles Street, Los Angeles.

The Silver Lining.

One word in conclusion. In directing your attention to what seems to me to be the greatest need of arid America I have been obliged to present the dark side of the picture. I hasten to assure you this course has not been taken in order to discourage settlers, but rather to aid them. I believe so thoroughly in irrigation and in the advantages of irrigated agriculture that I would not attempt to cultivate land outside of the arid region. I feel certain that in no other part of the United States can the staple products of the soil be so cheaply grown. In no other part of the country is the soil so rich, the climate so agreeable and so well adapted to the outdoor occupations of men. It is because of this abiding faith that I so earnestly desire the success of all irrigation enterprises. The strong features of these need no words of praise from me; it is the weak features which cause us to fear, and since a chain is no stronger than its weakest link, I urge upon you as the representatives of the people of the West to come to the rescue and change a possible defeat into a glorious victory.

In all the greatest battles of the history of the world the wise general has reserved a part of his force to use at critical periods in support of the weakest positions. In this great battle against aridity which is now being waged the weakest position is to be found on the firing line amid the thickest of the fight, among the great army of toilers who are striving to conquer with water the Great American Desert.

The Farmers' Institute was held at Corning Oct. 14, 15 and 16. Prof. Warren T. Clarke of the Yale University, G. B. Lull, State Forester and A. W. Robinson, of Napa, were the principal speakers. The attendance was large and interest great. Corning conditions of soil, climate and what best adapted to it, were made the special subjects.

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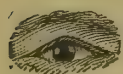
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Household Department

NO FRIENDS LIKE THE OLD ONES.

There are no friends like the old, old friends,
And none so good and true;
We greet them when we meet them,
As roses greet the dew.
No other friends are dearer,
Though born of kindred bold,
And while we prize the new ones,
We treasure more the old.

There are no friends like the old, old friends,
Wherever we dwell or roam;
In lands beyond the ocean,
Or near the bounds of home.
And where the smile to gladden,
Or sometimes frown to guide,
We fondly wish those old friends
Were ever by our side.

There are no friends like the old, old friends,
To help us with the load
That all must bear who journey
O'er life's uneven road.
And where unconquered sorrows
The weary hours invest,
The kindly words of old friends
Are always found the best.

There are no friends like the old, old friends,
To calm our frequent fears,
When shadows fall and deepen
Through life's declining years.
And when our faltering footsteps
Approach the Great Divide,
We'll long to meet the old friends
Who wait on the other side.

—Deaf Mutes Register.

ABEL MITCHELL'S WILL.

ABEL MITCHELL called to his typewriter.

"You may go, Miss Morris," he said. He did not look up from the papers before him.

The young woman turned to the clock with a little start of surprise. It was only 4:30. But she quietly put on her hat, and with a murmured good night left the room.

Abel listened to the departing rustle of her skirts with a thoughtful expression. There was a sensible girl. A girl who had never grated on his feelings. A girl who asked no useless questions. She had reached an age of discretion. If Jim was determined to marry a poor girl, why couldn't he have taken one like Emma Morris?

Abel opened a heavy envelope and drew forth a folded paper.

"Jim was never confidential with me," he grumbled. "Perhaps I didn't invite his confidence. I don't know. Now he has disobeyed my direct command. That can't be overlooked. When he told me about this girl I said, wait. 'How long?' he asked. 'Until you reach years of discretion.' I cried, and turned away. Jim is twenty-four. Twenty-four. And I married at twenty-one. Yes, and ran away, too. But it was different with me. My father had nothing to give me. I was quite independent." He was glad to have me shift for myself. Jim's father is a rich man. Jim's father has given him dollars where my father begrudged me pennies. Jim owes me filial obedience. He has disobeyed me to his bitter cost."

He unfolded the paper that he had taken from the envelope and ran his keen eye down the closely written lines.

"He has given up his father for a pretty face," he muttered. "Let him stand by the consequences. Who is she? What is she? It matters not. No doubt they trapped him into this marriage. 'A rich man's son,' they chuckled. But they'll find they're fooled. 'Father,' he said, 'I am to be married tomorrow night. Will you come with me to the wedding?' I turned on my heel. Then I looked back. 'You know the price you pay?' I cried. 'Yes, father,' he said, with his head high up. I know. Good-bye, and God bless you." He asked a blessing on me! Ha, ha, ha, that's too rich! But he'll get evil for good this time. I'll cut him off with a dollar. Let him sup on herbs for awhile. That'll take the veneer

from love's young dream. I'll draw up a new will at home tonight and have it witnessed before I sleep. And to let him know what his foolish fancy has cost him I'll write him a letter—a letter he can show to his new relatives. That's the thing—a letter."

He bent down with his head upon his hand and his eyes fixed upon the paper. A rustle of skirts in the doorway drew his attention. He did not look up. It was a way he had.

"Ah, Miss Morris," he said, "back again?" He had quite forgotten that he had sent her home.

The young girl in the doorway did not answer. Her bright eyes were fixed upon the old man. She expected him to look up. If he had done, he would have seen a charming vision. She was a very pretty girl—dainty and neat from the tip of her new hat to the tip of her new shoes. But he did not look up.

"Just in time," he added, "I want to dictate a letter before you go."

He paused, and the young girl, as if seized with a sudden fancy, quietly stepped into the room and seated herself at the typewriter.

"You have been with us so long, Miss Morris," the old man continued, "that we view you as a confidential agent. Besides, this will be public property very soon. I am going to write to my son. Last night he married an unknown girl against my wishes. I am going to tell him that I wash my hands of him and his; that to-night I change my will, cutting him off with a solitary dollar. Are you ready?"

The girl at the typewriter gave the instrument a preliminary click or two.

"James Mitchell," began the old man, "as you have seen fit to disobey me, to cast my fatherly wishes in my teeth, I desire you to know that I have no wish to hold further communication with you. While I cherish the impression that you were lured into this unhappy marriage"—

The typewriter stopped.

"Unhappy marriage," the old man replied, and the clicking recommenced; yet I cannot accept this excuse for your undutiful conduct. To-night I change my will and you may rest assured that your name will be passed over with the smallest possible financial consideration. I prefer you to understand this here and now. It will prevent you and your new friends from cherishing any false hopes. This is all I have to say, and no reply will be expected.

ABEL MITCHELL.

The young girl drew the sheet from the machine, and, bringing it forward, laid it on the old man's desk. Abel glanced it through.

"A beautiful copy," he said, and carefully folded it. Then he placed it in an envelope and dipped a pen in ink.

"I do not know his address," he said, and knit his brows.

The girl at the end of the desk extended her hand.

"If you have no objection," she quietly said, "I will deliver it to him."

"I am Alice Mitchell," said the young girl. "Mitchell!" repeated Abel, dully. "M—my son's wife! And what?"—but the ugly words would not come. He could not utter them in the light of those gentle eyes. Will you be seated?" he lamely added.

"Thank you, no," said the girl, in person.

The old man looked up at the fair face bending over him.

"Why, who are you?" he cried. "I have but a few words to say; they will not detain you long."

Abel's gaze dropped to the letter and the will, and a sarcastic smile twisted his mouth. "No, no," the girl quickly added. "I have not come to plead with you. You are quite wrong, too, to insult me as you did in that letter."

He looked up again quickly. There were tears in the gentle eyes. And there was a glint of fire in them, too.

"You insulted me and you insulted my dear father. I have no mother." She paused a moment. "When you insinuated that my father was mer-

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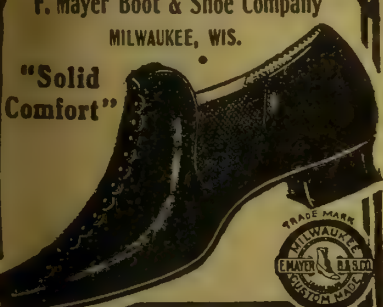
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cenary in this matter you did him a cruel wrong. He was bitterly opposed to our marrying without your consent. I disobeyed my father, too. But it was not for your money. This The old man dropped his eyes beneath her reproachful gaze.

"Perhaps I was hasty, he slowly said, but the provocation was great." Then he quickly added: "But knowing as you did that I opposed the wedding, and your father opposed it, too, why did you permit yourself to marry my boy?"

"I could make it clear to you, I think," said the girl gently, "if you loved your boy."

The old man trembled. If he loved his boy! All that was near and dear to him—all that was left to him of kith and kin. The babe that a dying wife had solemnly placed in his paternal arms. If he loved his boy! He drew a long breath and stared hard at the blank envelope on the desk before him.

"And now," said the young girl, "I only want to add that I think Jim was quite wrong in crossing your wishes. He might have waited. I wanted him to wait. But he is so proud, so self-willed. I am very sorry that I should be the means of separating you, and I—I am quite sure I am not worth the great sacrifice my dear—my husband—has made."

Abel was quite sure there were tears in her eyes again, but he did not look up.

"Where is Jim now?" he asked. Then he smiled grimly. "And why are you not enjoying your—your wedding tour?"

"There was a vacancy in the bank where my father is employed," said the girl, "and father secured it for Jim. His duties began today. Perhaps we will take our wedding journey later. We have to look out carefully for the main chance, now you know."

"And you didn't expect to fall back on my dollars?" said the old man.

"Not a penny of them," quickly replied the girl.

The old man fidgeted in his chair. "And why not?" he asked.

"I think you understand," said the girl, and her gaze dropped to the letter on the desk.

"Does Jim know you are here?"

"No. At least he didn't know I was coming. Father will tell him to meet me at the corner at 5 o'clock. I must go."

"Wait," said the old man quickly. He looked at her searchingly. She met his gaze with a smile. Her mind was on Jim.

Abel deliberately put the will back in its envelope, and the envelope in its pigeon hole. Then he picked up the letter in its unaddressed envelope, tore it into minute particles and tossed them into the waste basket.

"I have changed my mind," he softly muttered.

He pulled down his desk cover with a bang and reached for his hat. "There," he said, "I'm ready."

Then he added: "Will you give me your arm, my dear?" As he passed through the doorway he paused.

"I think, Alice," he said, "that you and I are going to be very good friends. And now we must hunt up Jim and take him home with us."—Cleveland Plain Dealer.

DESSERTS.

Heavenly Hash.

One pineapple, sliced thin; four oranges; sugar; one box strawberries; six bananas; lemon juice.

Put a layer of pineapple in a dish; cover with sugar, then a layer of berries, of orange and of bananas until all are used. Cover each layer of fruit with powdered sugar.—Mrs. L. W. W.

Orange Sponge.

One ounce of gelatine; one pint water; six oranges; one lemon; three eggs, whites only; sugar to taste.

Dissolve gelatine in pan; let stand until almost cold. Mix in the juices of the orange and lemon; add eggs and sugar. Whisk all together until it is white and spongy. Put in molds. Will be ready for use the next day.—Mrs. G. W. G., Riverside.

Peach Rolls.

Stew dried fruit; sweeten and

Continued on Page 431



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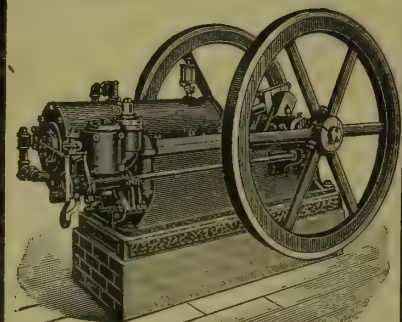
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The Produce Market

Los Angeles Markets

LOS ANGELES, Oct. 30, 1907.

Butter.

Butter prices were screwed up a little too high and had to take a tumble. A five-cent drop has occurred during the past week and at this date the market is exceedingly weak.

Creamery extra per roll...75
Firsts...65
Dairy...48
Cooking...45@47
Eastern...65

Cheese.

Cal Young America per lb...19
Hand...20
California Anchor...21
Northern fresh...18
Eastern...17½@18
Imported Swiss...32
Tulare flats...18½
Domestic Swiss...21@22
Oregon...18

Eggs and Poultry.

Fresh ranch eggs have taken a one-cent advance and the market is very firm at present quotations. Easterns have taken a sharp decline.

Eggs local candled...43
Eggs case count...39
Fresh Eastern...28@34
Eastern storage...24@27
Poultry shows a much better tone and an advance in quotations.
Hens per lb...15
Young roosters per lb...15
Fryers...16@17
Broilers per lb...17
Old Roosters...8
Turkeys...17½
Geese...12
Ducks...12@14½
Squabs...1.50@1.75

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The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 lbs...7½@7¾
Prime steers...4½@4¾
Heifers...4
Calves per lb...5
Sheep ewes per head...4.75
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Wethers...5.50

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Potatoes are weak in tone and lower in quotation. In car lots plenty of offerings are made for 1.30 for extra fancy stock, with few takers. Further decline is anticipated.

Highlands...1.20@1.50
Early Rose...1.75@2.00
Salinas...1.75
Sweet potatoes per lb...1¼@2

Onions.

Dealers are only just beginning to realize the crop shortage of California onions this year. Already Oregon onions are coming into this market freely, as a result of the shortage, and the price on Oregon is about \$2.25 delivered, consequently they cannot be delivered to the trade at the present time for less than \$2.50, and it is the belief of the largest shippers this price will double before the holidays are over.

Yellow Danvers...2.25@2.50
Garlic...8
Australian Browns...2.25@2.50

Vegetables.

Beets per doz...35@40
Bell peppers green lb...2
Beans Limas per lb...2
Beans green...1
Cabbage sack...35@50
Celery per doz...25@30
Chili peppers green lb...2
Cucumbers per box...15@25
Pickling...50
Corn per box...35
Cauliflower...50
Carrots per doz...30@40
Eggplant per lb...2
Green onions doz bunches...10@30
Lettuce per crate...40@75
Pie Pumpkins...1½
Peas sugar per lb...5@6
Okra per lb...5@6
Rhubarb per box...1.35@1.50
Radishes per doz...15@20
Spinach per doz...10@15
Summer squash crate...15@35
Turnips doz bunches...40
Tomatoes per box...20@35
Water Cress per hundred...35

Citrus Fruits.

Valencias...3.00@5.00
Grapefruit seedless...3.25
Grapefruit seedlings...1.75@2.00
Lemons fancy...3.75@4.50
Lemons choice...2.00@2.50

Fresh Fruits.

Bellefleurs...1.50@2.00
Baldwins...1.75
Pippins 4-tier...1.50
Gravenstein...1.50
Alexandria...1.00@1.50
Cooking...50@1.00

Cantaloupes crates...1.50@2
Casaba per crate...1.50@2
Figs black per lb...1.50@2
Figs white...1.50@2
Guavas...1.50@2
Grapes Isabelas per box...1.50@2
Black Hamburgs...65¢
Rose Peru...65¢
Malaga...75¢
Muscats...75¢
Tokay...1.50@2
Cornichons...1.50@2
Pears...1.50@2
Winter Nellis per lb...1.50@2
Peaches per box...1.50@2
Hungarian prunes...1.50@2
Pomegranates per box...1.10@1.50
Perismons...1.50@2
Quinces...1.50@2
Raspberries...1.50@2
Strawberries...1.50@2
Watermelons per hundred...1.50@2

Dried Fruits.

Apricots...22¢
Evap. apples fy per lb...8½¢
Figs loose...12¢
Peaches...12¢
Pears...12½¢
Nectarines...13¢
Prunes...3½¢
Plums...11½¢

Beans, Dried

Damage to a part of the lima bean output has strengthened the bean market and quotations are marked materially. The following on whole sale prices f. o. b., Los Angeles.

Limas per ctn...550¢
Pink No 1...3.75@4
Lady Washington...3.25@3.50
Small White...4.50@4.75
Black eyes...5.25@5.50
Lentils...12@12½

Honey

Extracted white...8¢
Light Amber...5¢
Comb water white 1-lb. fms...12¢
Light Amber...11¢

Nuts.

Almonds per lb...18¢
Peanuts Virginia...8½¢
Peanuts California...6¢
Walnuts No. 1 S S...15¢

Hay.

Hay has taken an upward trend owing to reported damage to the crop in the rain.

Barley No 1...14.00@14.50
Barley No 2...13.00@13.50
Alfalfa northern per ton...15.00@15.50
Alfalfa new local...15.00@15.50
Plain Oat No 1 new...16.00@16.50
Wheat No 1...18¢
Wheat No 2...14¢

Grain.

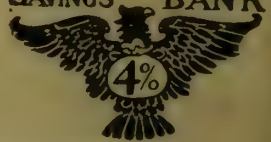
Wholesale selling price f. o. b., Los Angeles.
Wheat new per ctn...11¢
Wheat in 100-lb. sacks...11¢
Barley...11¢
Corn Eastern sacked...11¢
White oats...11¢

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn...11¢
Shorts...11¢
Bran...11¢
Oil cake meal...11¢
Feed meal...11¢
Rolled barley...11¢

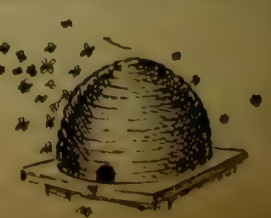
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San Francisco Markets

SAN FRANCISCO, Oct. 29, 1907.

Butter.

Butter is still on the decline with a very weak tone. Receipts are heavy. California extras per lb.31
California firsts.30
California seconds.28
Eastern extras.27½
Storage Cal ex30

Cheese.

California young America fy.18
California flats fy.17½
Eastern fy.18½
Oregon fancy.16½

Eggs and Poultry.

A further drop of one cent is noted the past week. Market not strong. Fresh ranch eggs.49½
Eggs firsts per doz.47
Eggs seconds per doz.27
Eggs thirds.23
Storage Cal extra.29
Eastern selected.24
Eastern firsts.22

Under the large receipts of Eastern poultry the market has been weakened and prices hammered down. Three cars were received on Monday and more in sight.

Hens per doz.4.50@6.00
Hens extra.6.00@7.00
Young roosters5.50@6.50
Old roosters.4.00@4.50
Fryers per doz.4.50@5.00
Broilers per doz.4.00@4.50
Geese per pair.1.50@2.00
Ducks young.4.00@4.50
Turkeys per lb.18@21
Pigeons.1.00@1.25

Live Stock.

Steers No. 1.8@8½
Do second quality.7@7½
No. 1 cows and heifers.6½@7
Hogs 80 to 200 lbs.7½
Hogs 200 to 300 lbs.7½
Calves per lb.4½@5
Lambs spring6@6½
Wethers No 1.5@5½
Ewes No 1.4½@5

Potatoes

Potatoes are weaker. Sweets are being offered very liberally and quotations are lower.

River whites.1.00@1.35
Oregon Burbanks.1.20@1.40
Salinas.1.40@1.75
Sweets.1.25@1.50

Vegetables.

Cucumbers per box.90@1.25
Corn per sack.1.50@1.75
Chili peppers per box50@75
Bell peppers per box.75@1.00
Egg plant per box.50@75
Green peas per lb.5@6
Squash per box.1.00@1.25
Tomatoes California.50@75
String beans.2@3½
Wax beans3@4
Garlic.4@6
Marrowfat squash per ton.10.00@15.00
Hubbard squash per ton.10.00@16.00

Onions.

Onions Br Australian per ctl.2.00
Yellow.1.40@1.75

Citrus Fruits.

Valencias.3.00@4.50
Grapefruit seedless.2.50@4.50
Lemons.4.00@4.50
Limes.6.00@8.00

Fresh Fruits.

Fresh fruits continued out of favor on account of the wet weather and the effect of the rains of the previous week were noticeable in yesterday's arrivals. Apples dragged along in buyer's favor, with cheap stock the ruling variety. Grapes came in the worse for the rains, with a moderate inquiry from the trade. Figs were likewise poor in quality and sold at shaded figures. New crop arrivals of oranges are slow in coming in, but considerable is due to arrive shortly.

Apples Gravenstein.1.25@1.50
Apples small stock.40@75
Crab apples.85@1.00
Figs one layer.50@1.00
Grapes per crate.75@1.50
Huckleberries.6@9
Melons per small crate.25@45
Pears winter Nellis.1.70@2.00
Pears cooking.60@1.25
Persimmons.1.00@1.25
Pomegranates per box.1.00@2.50
Plums per box.50@1.00
Peaches per box.1.00@1.25
Quinces per box.1.00@1.25
Raspberries per chest.7.50@11.00
Strawberries per chest.5.00@9.00
Watermelons per doz.1.75..2.50

Dried Fruits.

Apples (evap.)10@10½
Apricots per lb new.18@24
Figs white.3½@5
Nectarines.12½@15
Plums pitted.12@15
Prunes 4 sizes.4@5½
Peaches.10@13
Pears.7@13
Prunes 4 size bag basis4½@5

Beans, Dried.

Limas.5.15@5.30
Pink.3.25@3.35
Small white.3.50@3.60
Large white.3.00@3.10
Lady Washington.3.40@3.50
Black eyes.4.00@4.25
Red kidneys.3.40@3.50
Bayo.3.15@3.25

Hops.

Hops new future delivery per lb 7½@10
Hops old fancy.4@6

Nuts.

Almonds new.16½@17½
Peanuts California.6½@7½
Walnuts14@17

Honey

Clear white comb.16@17
Amber12@15
Extracted.7½
Beeswax No 1 per lb26@28

Hay.

Alfalfa local.12.00@13.50
Tame oat.16.00@17.00
Wild oat.10.00@14.00
Wheat No 1 new.20.00@22.00

Grain.

Wheat No 1.1.67@1.70
Barley No 1.1.60@1.62½
Corn small yellow.1.65@1.70
Corn large yellow.1.65@1.70
Oats white.1.60@1.65
Oats red.1.75@1.90

Feed Stuff.

Bran per ton.24.00@25.00
Straw per bale.75@85
Feed cornmeal per ton.37.00@37.50
Cracked corn per ton.38.00@38.50
Rolled barley per ton.35.00@36.00
Oil cake meal per ton.38.50@40.00
Cocoanut cake, per ton25.00@26.00
Middlings.30.00@32.50

Citrus Market

LOS ANGELES, Oct. 30, 1907.

The first of new crop navel to be received in this market arrived yesterday from Arizona. They were very large running 96s or larger and sold at 5.50@6.00 per box.

This fruit is received from Yuma, just as the last year's Valencias are being shipped to the East, and are bringing as much here in Los Angeles as are the Valencia oranges in the East, and this consignment demonstrates that shipments of oranges will probably be kept up throughout the year in the future.

The season, or the orange year, ends tomorrow, and Nov. 1 the new year begins.

The demand for grapefruit is keen and at good prices.

Lemons have also felt the upward movement and all available packing stock is being sent East, where there has been a continual improvement in the market for some time past. Select lemons here are bringing from 2.75 to 3.50 a box, with a very few offerings. Culls are worth considerable more than they were a month ago.

Shipments.

Shipments to date total 27,467, of which 3485 are lemons. Last year same date, the total was 25,944, of which 3904 were lemons.

DESSERTS.

Continued from Page 429

flavor to taste. Make a good baking powder crust; roll very thin and spread with fruit, putting small pieces of butter on the fruit. Roll up and place in a deep pan. To three or four rolls add one cup sugar and one-half cup butter and pour over this hot water enough to cover. Bake one-half hour. Serve with sauce or cream and sugar.—Mrs. M. G. M.

Fruit Dumplings.

One pint flour; fruit; a little salt; two teaspoons baking powder; milk to make a very soft dough.

Sift the salt, baking powder and flour together; mix with milk till very soft. Place in a steamer well greased cups. Put in each a spoonful of batter, then one of fruit. Cover with another batter. Steam twenty minutes. Serve with whipped cream or lemon sause.—Mrs. R. E. S.

Chocolate Pudding.

One pint milk; large half cup sugar; two heaping tablespoons grated chocolate; one heaping tablespoon corn starch; pinch of salt.

Let milk come to a boil, then add the sugar and chocolate well mixed, then the corn starch wet with two spoons of the milk. Boil until it thickens and turn into cups or mold. Set it away to cool. Serve with whipped cream well sweetened, or with plain cream and sugar flavored with vanilla.—Miss R. W.

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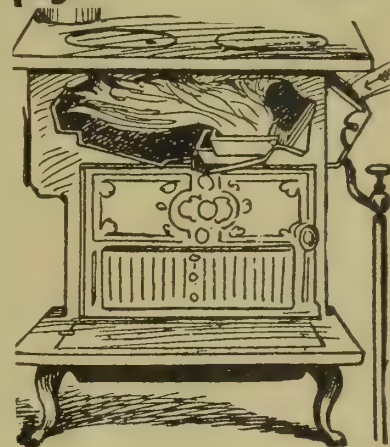
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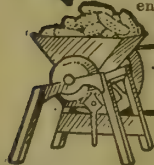
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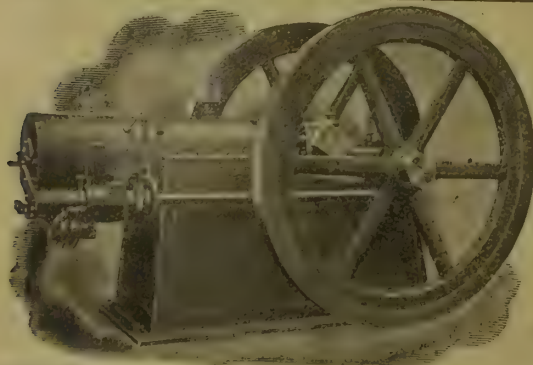
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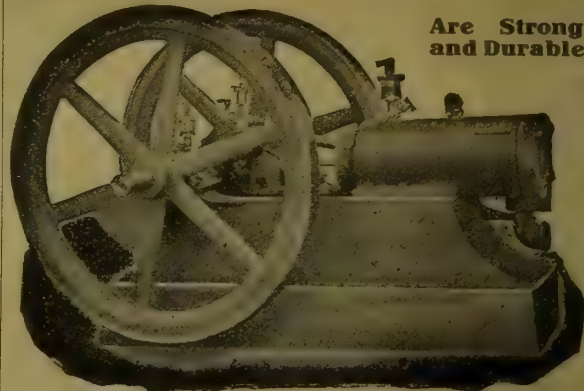
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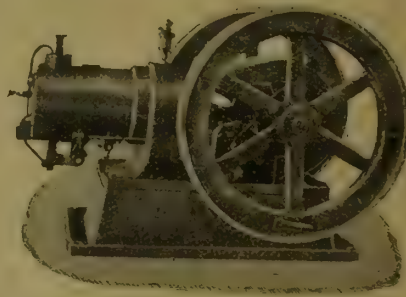


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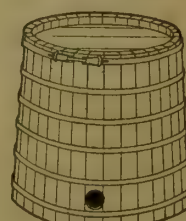
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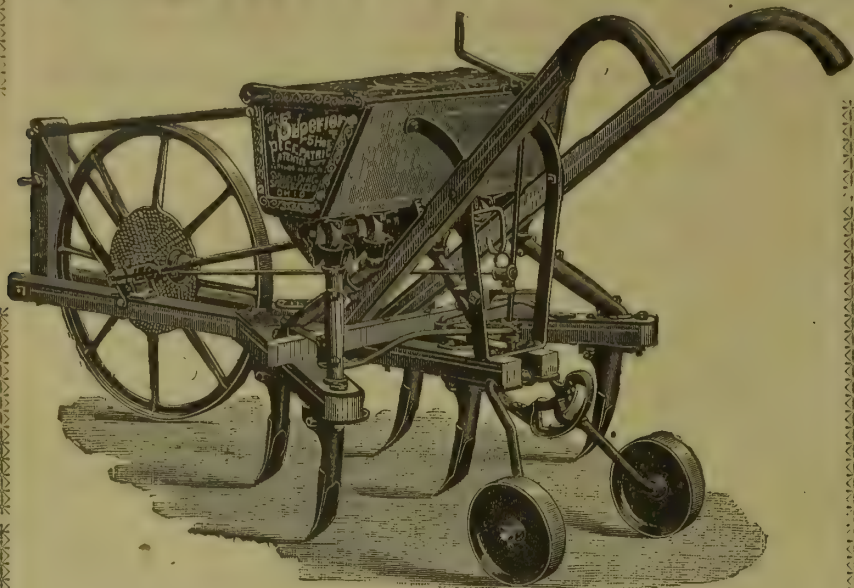
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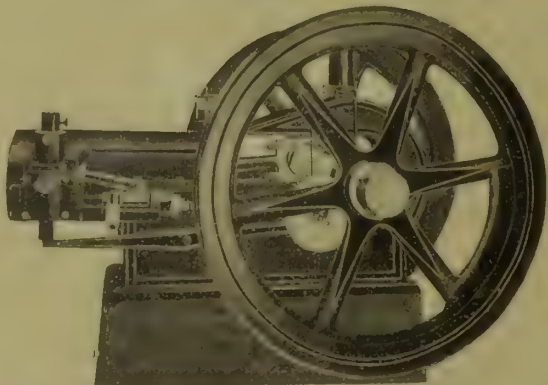
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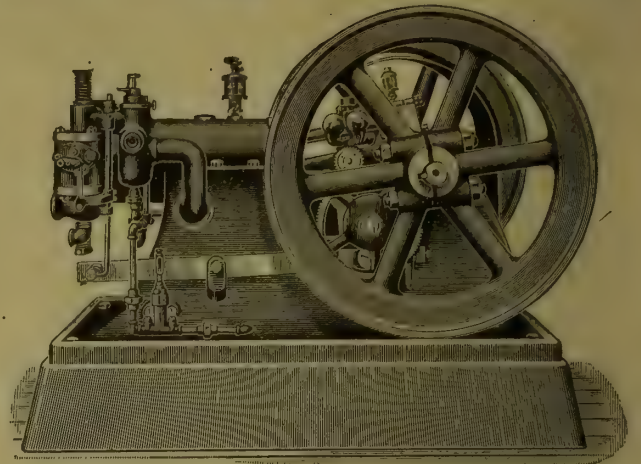
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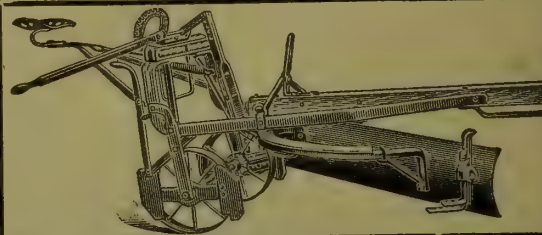
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California Cultivator

Vol. XXIX—No. 19

Los Angeles, California, Thursday, November 7, 1907

Subscription \$1 a Year

Dedication of Farm and State Institute

An Enthusiastic Greeting Given Those Who Have Been Instrumental in Securing the Farm for the State. A Trainload of Grangers from Sacramento

PROFESSOR E. J. WICKSON called to order a large and enthusiastic audience at the State Farmers' Institute and dedication of the State Farm at Davis, on Tuesday of last week. He came to learn and to celebrate the inauguration of the educational work of the State farm, which has been looked forward to for these many years by farmers—and all well wishers of the state.

President Wheeler in his address of welcome, said in part:

President Wheeler.

We are met to initiate what I expect will prove a new and significant departure for the education of California youth. It concerns industrial education and particularly that branch of it which affects the complex body of arts practiced in the life of an American farm; and industrial education is a form of human training which assures the reverse the direction of the prevailing book and blackboard education and move from the outside in, instead of from the inside out. In, for instance, the case of agriculture the old way started with principles and built up the imaginary farm; the new way starts with the real farm and provokes an appetite for principles. There may be two ways of producing loaves of bread: to start with lectures on the chemistry of yeast; the effect of heat on starch and the centigrade measurement of the temperature of ovens, or to start with the traditional skill of an actual art in bread making, and correct guide that of scientific knowledge and experiment;—there are the two ways, but we have no doubt which is better for the digestion.

The most significant change in the attitude of university education during the last two decades is found in the frank tendency to relate itself to the larger circle of human occupations in actual life. At our own university within the last decade have been added, for instance, courses training directly for life in architecture, hydraulic engineering, sanitary engineering, railway engineering, irrigation, forestry, banking, general business and the consular service. The old education did, indeed, in its origins, adjust itself to the training of teachers, theologians, doctors and lawyers, but it stopped there, and inclined to think this training or one of these trainings all that could worthily be offered to others who might come to the doors of the university without plans of life. So it came to pass that the college gradually sundered itself from life and followed, in default of clearer aims, a certain groping after a discipline or culture that might be hoped to serve the general purposes of free and manly living. And such a purpose it has, by the kindly help of Providence, more than by the wit of college masters, served in much larger measure than one would have thought or now could explain—except that continued contact with the best thought of human kind always awakens thought, and that rethinking the thought and reliving the experiences of men in fields that suppleness and sympathy of mind which is a first essential in meeting social problems and dealing with human beings.

Fifty years have elapsed since the beginning of the first experiment in agricultural education in Michigan, and under the quickening influence of that venture and others that succeeded it, the whole nation of teachers has been assuming a new conception of the whole meaning of their

task. It is coming to them not through a-priori reasoning, for of that they did enough before, but through observation and practice of ventures such as those made by the early agricultural schools. They now seem to be learning that education inheres not in what you put into a man, or what you hang on to a man, nor yet in sterilizing him or shaving him down to a standard shape, but in giving him, such as he is, and such as his left activities may be, the opportunity, in and through these activities, to live his life fully and effectively and abundantly. Such education proceeds upon the recognition that no hypertrophy of mind or body is as good as plain health, that plain health is the best medicine for all disease, and that the normal exercise of plain life is the straight way to plain health. Such education will, therefore, address itself perforce to the real doings and exercises of real life, and its definition will be: The guided practice of life, to the end that men may live.

The Prize Farm.

Prof. Wickson said he wondered how many knew that forty-nine years ago this farm was declared the prize farm of California. It had then about 8000 acres with a big orchard and 1200 acres of alfalfa. It was a Garden of Eden, and the fig trees, the only survivors of the orchard, are here to start the new Garden of Eden. He introduced George W. Pierce, of Davisville, as a product of the district.

Mr. Pierce's Address.

Mr. Pierce said that today a new impulse was to be given to agriculture—an attempt was to be made to uplift the farmer. It is the beginning, he said, of a new era and he welcomed the assembly as members of a building committee to that end. He welcomed them as members of an advisory board to the regents of the university. Today's conditions, he said, call for making two blades of grass grow where one grew before. It is the day of diversified farming and of small tracts. The instruction given here will tend to increase the number of small farms and bring the farmers into closer touch with their fellows and break up their isolation. To the board of regents he offered this new institution. With its inheritances it should become a giant in its class. It is the entering wedge to the progress and welfare of the California farmer.

From today, he said, will date an awakening in California agriculture, horticulture and stock raising, the far-reaching importance of which can be scarcely estimated. Today the work starts on broader lines. The State is to try to induce the farmer to develop his skill as well as his muscles, to exercise his intelligence as well as his powers of endurance. For its success this movement must look to widespread active influence of capable friends of agriculture throughout this State. With the advent of new commercial conditions, increased and complicated transportation facilities, the introduction of irrigation and the sharpening of competition has come the necessity for a change in California farming, and we must meet the new conditions if we want to succeed.

Lecturer of State Grange.

F. H. Babb, lecturer of the State grange, spoke of his gratification at the opportunity to respond on this occasion. It was a great one. He was glad to welcome Professor Wickson, who had

done so much to lighten the troubles of the farmer. Not only does the grange need the college of agriculture, but the college of agriculture needs the grange. There was a time when the college at Berkeley was not extensively patronized in its agricultural department. The grange has always stood loyally by that department and at its last session the State grange decided to send one of its younger members to be educated here. We, he said, will do well to co-operate in future with this department of the university. The only trouble with the grange is that there are not enough granges. In the East nearly every farmer belongs to the grange and attends its meetings.

Senator Diggs Speaks.

Professor Wickson said this movement had been one of Bills. He mentioned five citizens by that name, and said the sixth was the Diggs bill, and he would call on Senator Diggs. Mr. Diggs said he had been an earnest worker for the farm. Years ago he had worked for it, and of late had been a member of the Sacramento valley association, which always takes a hand in anything that will be a benefit to the valley. He knew of nothing they had worked for that would be of more value to the valley and the State. He congratulated the committee on its selection of the site, the people of the valley for the opportunity opened to them, and the fathers and mothers for the opportunity to educate their children in agriculture and induce them not only to become farmers, but to remain farmers—to achieve success on the farm and to make happy homes there. There is too much tendency, he said, for farmers' boys to go away and enter other callings.

There is the careful, capable farmer, who attends to details and is successful; there is the pedro farmer, who lives in the city and takes his ease. He was proud to be called on to respond on this occasion and to testify to his gratification at its object and consummation.

Senator Boynton, of Oroville, also responded to the address of welcome.

For All Time.

Judge P. J. Shield, of Sacramento, who worked hard for this farm, in a short talk said:

The work we do tonight is the first exercise of the educational purpose of this institution. The activities we now inaugurate will last for all time, and their influence will profoundly affect the industrial life and the social character of this whole western country. In the presence of such a condition I feel almost stunned; confused by the multitude of suggestion which this occasion prompts. But one thought occurs to me with distinctive force—it is this institution is the result of a want long felt, of hope long deferred, and of the protracted and severe labors of a number of broad-minded and far-seeing men and women, whose patriotic solicitude discerned the need of their State, and whose accurate observation of modern progressive tendencies indicated to them how that need might be best supplied. As a consequence we have this farm and this school so nearly accomplished that tonight we permit no doubts of the complete realization of our hopes and plans to cloud or qualify our happiness.

The old idea of education related only to a man's mind as a thing apart from his body and his life, and concerned itself only with the ideal.

Concluded on Page 448

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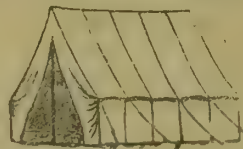
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With the Citrus Growers

LEMON MEN'S CLUB.

AT A recent meeting of the Lemon Mens' Club held in Los Angeles, the subject of mealy bug was discussed. This pest is very active in certain sections around San Diego and also is appearing at Covina and certain surrounding districts. This is a most difficult insect to handle, resisting fumigation and spraying does not eliminate it. Mr. B. J. Jones, of San Dimas, says that whenever the mealy bug appears there, it is soon followed by the brown Lace-winged fly, which seems to hold it in check.

The effect of the mealy bug on the lemon is a heavier coating of smut than is produced by the black scale. The insect secretes itself in the smallest crevices and folds of bark and is almost impossible to eradicate from these places. The climate of San Diego seems to suit this insect, which is one of the hothouse pests that is so hard to manage. There is a parasite working on the bug at San Diego, but it does not hold it in check. It is hoped that this, with the brown Lace-winged fly, will suppress it so that it will not be any worse than the black scale, at least.

The subject of distance in planting lemon trees was brought up. It was stated that on the Limoniera Ranch at Santa Paula, part of the orchard was planted double in each row; that is, the rows were the same distance apart, but the trees were planted half as far apart in the rows as the distance from row to row. In another part, pomelo trees were alternated in the lemon rows, these afterwards removed, leaving all lemons. It was expected that the lemons in this part would at once proceed to produce much larger crops than the same number in the part planted double to lemons. The result was that they continued to produce half as many lemons as the double planting. As a result, the double planting has remained double, it being the original intention of the owner to thin them out after a few crops had been harvested.—J. W. Mills.

"PEDDLING" WHITE FLY.

SINCE the White Fly scare began sometime ago many prophets have arisen, offered various and sundry methods of determination and control, warned the public broadcast of the terrible consequences surely incident upon its introduction and offered in the most open handed manner possible, to determine any and all doubtful pests which might be brought to them; in fact, if anything doubtful should be found the proper thing, according to their writings, is to take it at once to an expert so that the worst may be known at the earliest possible moment and further infection thus avoided.

Few, if any of these, and I have followed them all very closely, have even suggested that the grower could not possibly make a greater mistake than to remove the pest from his grove or even from one part of the grove to another, I have known of insects being carried over many miles of citrus country for determination. Now if some of these should really be the White Fly this would be the best possible means of spreading it abroad throughout a distracted community. The whole scheme of horticultural quarantine is based on this principle, and while there is such a

careful surveillance of importation our own people should be warned against the possibilities of local distribution by the moving of doubtful pests of any kind.

It is evident by the volumes that have been written on the White Fly from every quarter of the citrus region that there is an abundance of local talent, not to mention the county inspectors who are always present so that some expert could be found available to every grove who could determine the pest in situ, and the persons should always be taken to the pest, rather than the pest to them and if they cannot determine it they will at least be provided with killing jars or other means of killing the insect before removing it from the tree on which it is found. Each inspector and each horticultural writer should make himself a committee, one to warn the growers against moving these doubtful insects, for there is a great tendency among orchardists since this problem has arisen to take these things at once to their inspectors or commissioners for determination, and too often there absolutely no provision made against their escape and spread into other groves.—B. J. Jones.

CALIFORNIA-GROWN TREES IN PALESTINE.

The Cultivator has spoken in the past of orange trees sent to Mediterranean points by the Teague San Dimas Nurseries, and we are now glad to get report for them from the other end of the line, we quote from a dispatch in a paper:

Many Californians who have returned from their European trip have expressed surprise that they have been able to buy at the Mediterranean ports navel oranges grown at Jaffa, Palestine.

A writer in the Sunset Magazine also called attention to the navel oranges of Jaffa as being sweeter than our Washington navels grown in Southern California. It may be a greater surprise to the Sunset writer and also to our Californians who enjoyed eating these oranges from Jaffa, to know that they are grown on trees shipped from the nurseries of R. M. Teague of San Dimas, the largest citrus nurseries in the world. Six years ago Teague shipped his first consignment of 3000 navel trees to Jaffa these reached there in excellent condition, with a very small percentage of loss, and in four years the oranges from these trees were being sold to the passengers on the steamers on the Mediterranean. Since then Teague has done a large trade with Palestine orchardists.

JAPANESE WILL PICK ORANGES.

The Porterville Messenger says Orange picking is about to begin in this district and with it arises the fear among the pickers that the grower will bring in Japs to do the picking. It is understood that a number of the local growers have expressed themselves as intending to hire a crowd of Jap orange pickers and to that end Jap contractor from Fresno will be here Wednesday of this week to sign up contracts for picking at 4 cents per box.

A large crowd of white pickers and contractors have arrived from the south during the past few days and they are contracting for picking at

ts. They claim that they ought to be 6 cents for picking but will work for 5 rather than see the Japs come in. The contractor, who has about thirty forty men working under him stated this morning that they wouldn't stand Jap laborers being brought in here. What means would be taken to prevent this from occurring the white contractor did not state but he said the Jap contractor would be met at the depot Wednesday.

It is said that there are plenty of white pickers to gather the entire crop in this district this year and do it quickly and that there is no need of bringing in any Jap labor.

ARE IN PICKING ORANGES.

A correspondent from Riverside in a daily paper, in speaking of the advantage to be had in greater care in handling oranges, says:

E. Rumsey, owner of the big Na Vista Rancho on Arlington Heights, has built a packing house which will be ready for occupancy soon. Mr. Rumsey intimates that he will produce the finest pack that has ever gone from the State, provided he can find men who will follow out his ideas. While he does not expect to lose money on his pack this season, he does not expect to make anything, his object being to try out some new ideas with a view of adopting them if found feasible. Considerable experimenting will be done in every way of using extreme care at every stage of picking, packing and shipping, regardless of time and expense.

FLORIDA ORANGES.

An estimate in an Eastern paper regarding Florida oranges this season, the following appears:

The oranges in Florida are of good size and promise to be large for the coming season. The crop will be better than it was last year. Last season, including oranges, grapefruit and tangerines, about 4,000,000 boxes came out of Florida. It is estimated that not more than 3,000,000 will go forward this year. The extended drought which prevailed all last fall hurt the orange trees very much and the frosts the winter previous did some of the trees a great deal of damage. Even 3,000,000 boxes is quite a bit to handle and market properly. Each year the grapefruit becomes more popular, and barring any bad accidents between now and harvest time, Florida's grapefruit will be more extensively distributed than ever.

IMMATURE ORANGES.

Elsewhere are given reasons why shippers of Florida should not send immature oranges to the market. Every effort should be put forth to discourage this practice. Just why consumers will pay fancy prices for the first Florida oranges is remarkable. They are not fit to eat, frequently being sour enough to pucker the mouth. Such fruit cannot be conducive to health, and it is a question if the boards of health generally should not take a hand and say it is wholesome. This is an age of pure, wholesome food agitation, and State and Federal governments are regulating foods strenuously. In many instances they do for the people what the people will not do for themselves. If immature oranges are unwholesome they could be barred by the health boards.

One orange receiver said he "would like to discourage the shipment of immature oranges, but the fancy

prices they always bring cover a multitude of sins." That is just the point. So long as the public will pay the price there will be shippers who will cater to them. In the end these immature oranges are a great detriment to the State of Florida. They are so sour that people become disgusted with Florida oranges and turn to those from California. This necessarily lowers the price for the Florida fruit and it slumps. Once down it is difficult to recover. If ripe oranges only were shipped the opening prices would likely be maintained.

Florida has not a full crop this season, so it is hoped the shippers will keep the immature oranges at home and thus get higher prices for all of their fruit.—Chicago Packer.

HUMUS OF THE SOIL.

Humus being the remains of dead and decaying plants and animals, is composed of the elements and compounds that go to make up plant and animal substances. These consist of carbonaceous and nitrogenous compounds and mineral ash. The first two are organic compounds, and the third is inorganic. The carbon compounds in decay resolve into water and carbonic acid. The nitrogen compounds in decay resolve into water, ammonia and some other gases, ammonia being the most important from an agricultural point of view.

All of the compounds of humus when broken up through decay are easily soluble, hence are readily available plant food. The mineral ash is practically wood ash, and is rich in potash and lime phosphate. The nitrogen compounds are, of course, rich in nitrogen, the basic element of living protoplasm, proteins and albuminoids, all of the essentials for the formation of blood and flesh of animals. The carbon compounds are of less importance, because plants can secure water from any soil and carbonic acid gas from the atmosphere.


Since all of the compounds of humus are easily acted upon by external agencies, humus is a very unstable and changeable substance. In contact with free air, it is quickly acted upon by bacteria, causing its decay, or breaking up into the various groups of compounds which escape into the air or soar away into the soil, unless there are growing plants to absorb them. The less water there is in the soil, the more rapid is this decay, since the water tends to shut out air which carries the decomposition germs. In arid regions where little soil water is present humus decay is so rapid that scarcely any can be detected at any time. In very wet regions the decay is very slow, and in swamps where water almost completely excludes air and the stagnant vegetable acids will not permit the formation of bacteria, and decay is so slow that the layer of humus becomes a solid bed, forming peat. When swamps are drained, allowing the escape of surplus water, or anic acids, and the ingress of soil air, then these lands become rich for cultivation.

Not only is humus rich in chemical compounds which cultivated plants thrive on, but it has good physical properties which ameliorate the soil containing it.

Humus in the soil augments the water-holding capacity. Such soils have their mineral particles so held apart that a large capillary surface is exposed for the reception and retention of water. The water, too, has a chance to widely diffuse, hence the soil is never apparently very wet. For the same reasons, the soil retains its moisture a long time, and soils rich in humus are nearly always moist.

Owing to chemical changes which produce heat, soils containing humus are warm. Besides the heat produced by the chemical action of decay, the dark color of the soil absorbs heat, making it the warmest of all soils. The same principles are employed in the artificial hotbed.

Probably the highest property of humus is its power of making soils friable and easy to cultivate. Whether mixed with sand or clay, it makes the soil fine, loose and a congenial home for the roots of plants.—Farmer's Voice.



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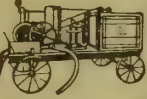
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BUTTER MAKING ON THE FARM.

CREAM should be stirred from time to time, every eight hours at least; this insures even ripening of the mass. When the time for churning comes, if the cream is not smooth and of a pleasant acidity without any rancid twang, it can be made to ripen more quickly by raising the temperature as described in last paper. The reason is that the keeping quality of butter is affected as well as the present flavor, when it is not properly ripened. Measure or weigh the cream as it is strained through a hair sieve into the churn. Remember for practical purposes "a pint's a pound the world around." If the cream is to a proper density for butter making three pints or a little less should make a pound of butter after it is worked and salted. If a heavy cream has been churned and falls below this amount then the cream was not evenly ripened. This can be tested by standing the buttermilk in the jar and stirring it occasionally for another day and then churning it. While this buttermilk will not make fancy butter it can be used for cooking. Once doing will make you able to check your work and it will probably not occur again.

Temperature.

A good thermometer is necessary if waste is to be avoided. I am often told by women that their fingers are good enough to test temperature. I tell them to get a thermometer and try it in the water; for instance, that in which they are peeling the onions, see how cold it is; then try the water after they have been washing dishes and their hands are heated and see how great a difference the temperature in which they have been at work makes to their fingers. One's "finger-test" is unreliable. Should I test cream with my fingers after running the typewriter they would be affected more easily than after washing them they would stand at least twenty degrees more heat.

Churning.

The churning temperature is fifty to fifty-five degrees in summer and fifty-five to sixty in winter. The temperature is easily made right by stirring with either the hot-water-filled bottle to raise the temperature, or with a bottle filled with cold water or shaved ice and salt to lower the heat. If pan or gathered cream is used do not forget to strain it into the churn to remove any particle of sour curds that may have mingled in the cream. These turn to curds and make a cheesy butter.

Churn.

A box or barrel-shaped churn gives a sharp concussion and makes butter most readily. The market is full of churns of various patents, but none as yet have proven superior to the old-fashioned box or barrel or triangular-shaped churn. The churn should be large enough not to be at any time over half full. One of the best butter makers I ever knew used to measure the cream into the churn and then add plain water if the quantity was lacking. This practice is not believed in any more, yet why I do not know, as my old aunt led the prize list with her butter in a

county fair where butter stands was high.

Scalding.

The wooden churn gives the best satisfaction. It should be scalded before and after using. The churn should be washed out with lime water and chilled with fresh cold water before the cream is put into it. Soap, or soap powders should be taboo around the churn. Avoid them also dish towels and the like around any vessels used for milk, cream or butter. Hot water, sal soda in solution, with lime water to sweeten will keep everything clean. The churn should be filled with boiling water; after ten minutes empty them out and turn side down to drain dry.

Churning.

Fill the churn half full of cream; take the temperature and make it right before starting to turn. The turning should be a slow even motion not to exceed four turns to the minute. In ten minutes, not to exceed thirty, the butter should come. If the butter comes sooner than this, the temperature make the churning temperature lower; if it takes longer, raise the temperature next time. But that comes in ten minutes indicates that the cream was over-ripened too warm. It is apt to be soft and not free from buttermilk, lacks keeping quality. Butter that is too light in coming is apt to be broken, grained and, therefore, is greasy.

Washing.

When the butter is the size of rice grains, stop the churn and drain off the buttermilk. Fill the churn with water at the temperature of fifty-five degrees. Turn the churn slowly six or eight times; the water stand for a minute then drain it off and let the churn stand with the cover on for ten minutes to have the moisture equally distributed before salting. Add one ounce to each pound of butter as estimated from measuring the cream. This is not high salting; in some markets the salt used runs as high as an ounce and a half to the pound. Spread the butter out in the churn and sprinkle the salt over it; then make one slow, deliberate turn with the crank to let the butter turn on the salt. Stop the churn, let the butter stand a while. Scald and work the butter worker. Use the paddle to lift the butter to the worker.

Working.

Now, butter working differs from bread kneading. The butter should be worked as lightly as possible. We are only trying to make the salt evenly through the mass and to compact it by pushing out the water held between the butter globules. In bread, on the contrary, we are trying to pack air into the minute spaces and to work the flour into a tenacious mass that will hold. Then when the yeast swells the bubbles with gas, the bread is light. When the butter is compact and the color is even then stop working.

Mottles.

These are simply caused by irregular salting; the action of salt is to lighten the color slightly and the salted globule of butterfat is, therefore, brighter in color than the

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ing salted one. The salt when p into the butter in the churn and tained over into it, and then let ad while the worker is being pre- ped, has abundant time to be dis- sed by the water and to make it n throughout the mass. The salt held in solution between the glob- es of butterfat never enters into m.—M. E. Sherman.

GOOD POINTS ON TRAINING COLTS.

ome farmers have fractious es because they do not begin dling them soon enough. They hem go until they are two or ee years of age, then they halter m and, of course, their wild ures are hard to subdue. We all ognize the fact that if a child kes a successful and useful man training must begin in early life. This law holds good with the rther order of beings, why not h the lower? I firmly believe it es, and this truth I can substan- te by an actual experience in the nning of a colt.

One time I owned a driving mare. e had a mean disposition and etimes kicked and tried to run ay when excited. I'm sure it was cause she had been left untamed til she was two or three years old. bred her to a high-spirited horse d she foaled a good colt. The day ame I went into the lot, caught and petted it, rubbing it all over m nose to tail. I met with some sistance, but the colt soon began understand that I was its friend. Journal of Agriculture.

RELATIVE VALUE OF HORSES AND MULES.

It may surprise some readers to arn that the average per head ue of mules in this country is er 20 per cent above the value of rses, or \$112.16 for the first against \$3.51 for the last. The average ue per State ranges from \$62 in lah to \$153 in South Carolina and orgia. The Southern States have e highest priced mules, but in such ominent horse States as Illinois, io, Indiana and Iowa, mules aver- e from \$104 to \$116, and in every ate except one, Minnesota, the erage value of mules is higher n of horses, and in the last State e difference is only \$3-\$94 for ules and \$97 for horses. Even in e States of lowest mule value they anage to get horses of still lower ue.

The total number of horses on nuary 1, 1907, was 19,746,583, and d mules, 3,816,692, or nearly one in e.

TICKS ON SHEEP.

Prepare a quantity of sheep dip e same as for dipping. Then etch the sheep, lay it on its back d pour a stream of the dip along e body from chin to tail. An old a or coffee pot is the ideal thing to e in applying the dip. In a minute less the dip would be seen oozing rough the fleece at the back. Then let the sheep go. Its body is et where the tick abides next the in and the tick killed. Coal tar oduct dip, of which there are many a the market, may be used. If this ot within easy reach, go to the ug store, procure a pint of crude rboic acid, mix with it either a nt of soft soap or a quarter pound any hard soap dissolved in a pint boiling water and use one part of e acid and soap mixture to a hun- ed of warm, soft water.

FACTS OF INTEREST TO FARMERS.

New ideas in the care and feeding of farm animals have brought to pass some radical changes in farm methods, greatly to the advantage of the farmer.

As for instance, take what may be called the "tonic idea." It teaches the necessary use of a proper digestive and corrective preparation during the weeks or months in which an animal is being fitted for market.

While this is a comparatively new idea, its importance cannot be over-estimated. No one single feature of the "new farm science" touches the profit side of the business so directly as this.

It points the way to a vastly more prosperous era in cattle raising as a branch of farm operations. It means greatly increased profits and a business established on a permanent basis.

The "tonic idea" is a simple, common sense proposition that the feeder of live stock will instantly appreciate once it is brought to his attention. Every feeder knows that at some point in the fattening process there may come to the animal a more or less serious digestive breakdown caused by a long-continued heavy feeding. No need to say that this disaster is to be avoided if satisfactory results are to be reached or a margin of profit realized.

The purpose of the stock "food tonic," then, is to correct and prevent just this dangerous condition, and as the "ounce of prevention is worth the pound of cure" it follows that no feeder can afford to wait until the mischief is done, but should keep the digestive apparatus of his fattening cattle in a healthy condition from the start by the use of the tonic.

Experiments carried so far that there can be no reasonable doubt of the accurate results reached, prove that a "food tonic" containing the bitter principles which aid digestion, iron for the blood and nitrates which cleanse the system, is especially beneficial in preserving perfect animal health under all conditions.

No farmer or feeder can afford to risk his stock without it.

By acting directly upon the digestive organs, it enables a fattening steer to consume, day after day, large amounts of grain, and of course lay on the flesh rapidly.

To the cow in milk the result is the same, except that the increased assimilation of food is secreted as milk rather than fat.

To horses the "food tonic" is very valuable. General good condition is always present where it is given and in fitting for market it gives most successful results.

Sheep and hogs derive an equal benefit from the "food tonic."

Lambs grow more rapidly where a very little is given in daily doses and tip the scale at a better figure when market day comes.

Hogs receiving it are uniformly healthy and make enormous growth in less time than would be possible under any other system of feeding. These facts show how vitally the farmers' interest is associated with the "food tonic" idea.

Such men as Professors Winslow, Quitman and Finley Dun indorse its ingredients and successful men are using it.

Clean out the cow lot before the hot weather begins. The task can be easily accomplished with a scraper and team. Nothing is more offensive than a filthy lot in hot weather and milk is contaminated quicker there than any other place on the dairy farm.

Frequent and thorough churning will obviate the difficulty so often experienced in having the butter full of white specks.

HELP THE COWS
Even the best cows can't make big profits for the dairyman who persists in using pans or crocks or a poor skimming separator. Cream is cash, and if yours is just an "average" herd, then how much more necessary to skim out every drop! Why not help the cows boost your profits by skimming their milk with a reliable **UNITED STATES SEPARATOR**

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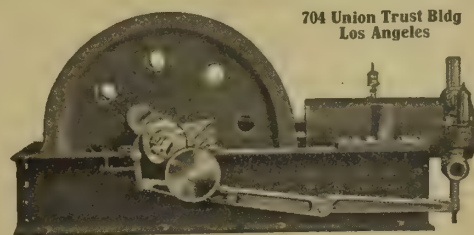
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HANDLING A CASE OF GARGET.

Dairy cattle properly fed and managed, are liable to few diseases. If pure air, pure water, a bright, clean, sunny barn, a liberal supply of wholesome food, with a frequent but gradual change of diet, are provided, there will be little need for remedies or the services of a veterinarian.

Pulse Beats.

The pulse beats per minute in a healthy cow number from 45 to 60. The pulse is taken at the side of the jaw opposite the attendant or just above the fore fetlocks. The temperature of animals is usually taken in the rectum with a clinical thermometer, and a healthy cow will have a temperature of 100 to 101 degrees. The breathing, if hurried, can be seen by the movements of the body. To count the respirations the palm of one hand (clean and free from odors) can be held in front of one nostril. About 15 respirations per minute are natural for adult cattle. The breathing rates are fairly reliable guides in cattle and horses, but not in sheep. The reluctance to eat, absence from the feed trough, hanging behind the herd, are all valuable indications to the careful stockman and should be looked into and the cause found.

The chief ailments to which cows are subject are garget, milk fever, hoven, sore teats, warts, ringworms, pneumonia and abortion.

Garget.

Garget is an inflammation of the internal substance of the udder. One or more of the teats, or whole sections of the udder, become enlarged and thickened, hot, tender and painful. The milk coagulates in the bag and causes inflammation where it is deposited, which is accompanied by fever. It most commonly occurs in young cows after calving, and in big milkers, especially where they have been forced. An attack of garget requires instant treatment; neglect may cause serious results, while immediate care may soon overcome the trouble. The treatment varies somewhat according to the peculiar character of the attack; and this differs greatly as the causes differ.

Causes.

The causes of garget are constitutional tendency to inflammatory disease; overfeeding with stimulating food, such as cottonseed meal, which readily provokes it; inflammation resulting from cold, as exposure to cold rains soon after calving, or by lying on damp, cold ground; excessive muscular strain, as by chasing around when the udder is filled; retention of milk, either purposely done by the owner, or by the cow withholding the milk; and lastly, by a sort of reflex action on the milk glands produced by a general condition of the cow which disturbs the circulation and forces it excessively in this direction, or which produces a diseased and irritant condition of the blood.

Treatment.

It is readily seen that each of these conditions may call for a different treatment, and that it would not be difficult for the owner of a cow to do mischief by adopting the advice of a neighbor who might have at one time procured relief in a case having an entirely different origin. In some cases it is clear that medicine might be required. For instance, when the trouble is caused by some disease of

the blood, and this removed, the secondary effects may disappear. In some cases mechanical treatment only may be needed, as when the vessels and ducts have become engorged and the milk has clotted in them, and an alkaline injection would dissolve the solid caseous matter and enable it to be drawn away. In other cases, both this treatment and medicine would be needed, as when the blood is in an acid condition during a feverish state of the system, and alkaline salts may be given internally and injected into the udder as well.

Sometimes soothing outward applications may be necessary, as when muscular strains or accidental blows have caused the trouble; and at other times when suppuration is probable, some absorbent agent, such as iodine, may be applied and an antiseptic medicine given internally. In this case warm fomentations (eight ounces of vinegar and two ounces of camphorated spirit, well shaken and thoroughly mixed, applied just after milking and washed off in warm water just before milking) and it may be even advisable to apply hot poultices. When it is necessary to draw the milk from a disordered udder, a silver milking tube should be used, which, after dipping in a weak antiseptic solution of creolin is inserted in the teat, and through it the milk flows by its own gravity. The treatment overcomes any obstinate interference by the cow with the flow of milk, and it brings it down in spite of her objections.—Country Gentleman.

TRIED FLY PREPARATION.

A preparation for the dairy cattle to prevent fly annoyance is given in a Canadian exchange by a dairyman who claims that he has found it to be very effective, and gives the ingredients of the same as follows: To four quarts of coal oil add one quart of fish oil and one pint of some good stock dip; place in some vessel which can be tightly closed and shake well so as to form a kind of emulsion before applying to the cows. The above amount will spray 20 cows once a day for two weeks, according to the writer, and it will absolutely keep the flies off the cows.

Such a preparation costs from 35 to 40 cents a gallon, and whether this kind of preparation is used or not, it will pay every man who milks cows to have something of this sort on hand. The best way of applying the fluid is by using a sponge or a large cloth, which may be lightly passed over the parts of the cow on which the flies are most likely to settle. This can be done in much quicker time than might be supposed. By starting in at one end of the stalls and by standing next to the stanchions the adjacent sides of the cows may be quickly treated.

We have used the spray also, but found it was necessary to make an application of the preparations nearly every day during the worst part of the fly season. When practicing the former method, the result of one application remained effective for several days.

There is but little doubt that the increase in milk alone will pay for the preparation and time used many times over, to say nothing of the increased satisfaction in attending the animals.

The Oregon Dairy Association is preparing to hold an exhibition on December 19th and 20th.

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No article is more useful about the stable than Mica Axle Grease. Put a little on the spindles before you "hook up"—it will help the horse, and bring the load home quicker.

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Sale Begins Promptly at 12:30 P. M.

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RAPE CULTURE IN SOUTHERN CALIFORNIA.

SHOULD some of the old rulers of Spain wake up and tour Southern California, they would wonder what had become of the laws that they enforced in the 16th Century which prohibited the planting of vines, figs, olives, etc., on the Pacific Coast. This country showed much promise as a grape country that Spain passed laws that prohibited the inhabitants from replacing any vines that died, and also fined captains of vessels \$2000 and forfeiture of charter for ten years, should they be found guilty of transporting any vine from one coast point to another, except that it had the stamp of Spain on it. The priests stationed at the missions in Central America and Mexico were the only ones who dared to disobey these laws. Had it not been for them it may have been many years later than the advent of the missionaries into California that we would have known that this part of the country was the home of the olive, orange and grape.

The first vineyards planted in California were at San Diego about 135 years ago. Vines were planted at San Gabriel a few years later and it was at this point that vines did better than any other place in California up to some time after that. Cuttings were distributed from this point to various other points north. It is thus that nearly a century and a half ago that it was demonstrated that California was the ideal home of the grape.

Riding on the train from Los Angeles to Colton we pass through an area of 10,000 acres planted to grapes. With a few exceptions, these are grown without irrigation and are profitable. This great vineyard is planted to a limited number of varieties of wine grapes. Table grapes of high quality are grown in various localities. Every year sees these areas extend, as the farmers find by experience that they have land adapted to the production of high grade grapes of certain varieties. For instance, one man found that out of a collection comprising the family vineyard, that one of the best paying grapes that he had was the latest. He has his vines on a southern exposure exactly where some of the earliest oranges are produced. Theoretically, this should not be so, and here is where the danger lies in giving advice, when no practical demonstrations have been made.

The desert regions, in conjunction with the coast regions, have given to Southern California what is, perhaps, the longest grape season of any part of the globe. From the former place, grapes are ripe from May till July while near the coast they ripen or are still on the vines from August to December, giving eight months in the year when fresh grapes are to be had.

The culture of the grape in the desert country is along the lines of culture practiced in the early times among California grape growers, excepting as to irrigation. When modern methods modified to meet their conditions are put to use, growers who are now astonished at the crops produced will be equally as-

tonished at the improvement in quality. Certain developments of the fruit indicate that other methods of handling the vines will give better results. These have to be tested first and will be in the near future. —J. W. Mills.

APPLE SCAB AND WORMS.

It will be remembered that the apple scab threatened to ruin the Newtown crop early this spring. The orchardists were advised to spray with the Bordeaux mixture as soon as possible, and many did so, with the result that scab advanced no further. So well did the Bordeaux spraying work that the scab loss in orchards receiving the treatment is very small. It is true that in the case of the White Winter Pearmain the early scab cut off their blossoms, and so rendered later spraying of little value. This variety should receive a thorough winter spraying with the lime-sulphur solution, and a Bordeaux application just before the opening of the flowers.

In general, the first Bordeaux mixture is most economically applied with the first arsenate of lead spraying for the codlin moth and caterpillars.

There has been some discussion regarding the use of the lime-sulphur solution to control the scab. There is some evidence to show that this spray applied just before the blossoms open will do the work, and it might prove a profitable venture for any who are reasonably sure of getting on the ground at that time to delay the winter spraying until near the flowering period.

Winter Spraying.

In general, winter spraying should be done as soon as possible in the fall. It is not necessary to wait until the leaves have all fallen. The winter spray should be even more effective at this time than in January or February, and the chances of favorable weather are much greater.

The results of last season's winter spraying is somewhat in doubt, as so much rain followed most of the applications that the scale killing powder of the lime solution must have been much impaired. It was noted that the commercial lime-sulphur solution did not kill moss as well as the lime-sulphur and salt formula had in former years. However, we continue to receive very favorable reports from most localities where these prepared solutions have been used. Further, the two compounds are theoretically the same, with the exception of the salt, and the ease of handling the commercial solution is a strong point in its favor.

Returning to the subject of summer spraying, arsenate of lead has shown its ability to control the codlin moth as usual, and there has been very little trouble from foliage, owing to the improvement in the brands handled here in that respect.

Arsenate of lead spraying is becoming yearly more satisfactory, and may now be regarded as an established practice. The orchardists should not, however, become too confident. It is necessary to spray for the scab and caterpillars about the first of May; two other thorough sprayings by the middle of June and one in August.

The San Jose scale, scab and codlin moth are well in hand, but the orchards in the valley are threatened by another disease apparently more difficult to handle. This disease is the apple powdery mildew. Experiments have been started with a view of determining a method of control. How successful the work will be time alone can tell.—W. H. Volck, before Pajaro valley Orchardists' Association.

Less Work—Better Results

The first matter of importance when spraying is to secure clean fruit and healthy trees; the next thing is to have expended the least possible amount of time and money.

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are peculiarly adapted to do these things. They are entirely different from other pumps in almost every respect, but particularly because they

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In the Spring rests the secret. What's the use in working so hard when the same results can be accomplished with a third less labor? Save time and effort by dividing the work, doing half at each stroke of the handle instead of doing all at one stroke, and meanwhile be working against only **one-half** the pressure indicated on the gauge. **Magic** pumps are built in two sizes and have non-clogging ball valves. It is worth your while to see one in operation.

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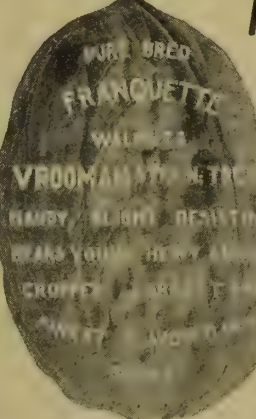
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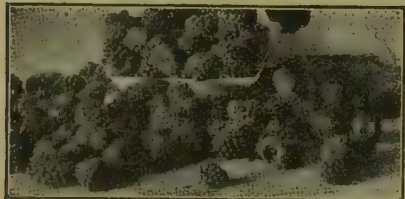
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The Vegetable Gardener

HARVESTING ONIONS.

AFTER onions have been topped, pulled with a wood-tooth rake and cured in the sun, they should be carefully run over a grader and thus relieved of the small stock as well as of much litter and soil that has adhered to them and become detached while handling, says the Northwestern Agriculturist. A grader will pay its cost in increasing the selling value of a single carload of onions or potatoes, provided it contains any considerable quantity of small stock and dirt.

Onions, like apples, must be handled as carefully as eggs to insure good keeping qualities. Don't shovel them like potatoes or travel over them, because such careless methods will surely cause decay and sprouting in a very short time with the perishable bulbs. Discard all scallions or "big necks." They are worthless to the shipper and may ruin the sale of their associates in the car because they will sprout and soon decay in spite of good care and storage.

Crates are the ideal things for handling and storing onions. The buyer will often pay a premium for crated stock which will equal the cost of the containers. The crates, well made will endure several years of service. Onions will heat quickly when piled in large quantities. They are frequently stored in sacks. Provision must be made for a circulation of dry air between each row and tier of sacks.

WIRE WORMS.

Replying to a Kansas reader, we will state that the wire worm is very destructive to potatoes. It eats out the heart of the potato, rendering them almost worthless. This pest comes from the click beetle, which will jump up into the air with a sharp clicking sound when placed on its back. This beetle deposits its eggs on the roots of grass, if in the meadow; but if in the field, on the roots of pigeon grass or any other grassy weeds. The egg hatches the worm and it appears when it is assaulting the potatoes. In the fall this worm pupates. That is, it changes its form and encases itself in a hard, dark-colored shell. It generally stays in this shell till spring, when it emerges as a beetle. The worm, however, lives for two or three years before it pupates, which accounts for the presence of wire worms early in the spring. This also suggests that it will take two or three years to overcome the pest.

As a result of many experiments with the pest, it has been found that the critical period of the insect's life is from the time it pupates till it becomes a beetle. If molested even slightly the pupa will perish. It pupates usually about the latter part of July. If the ground is plowed then a great many will be destroyed, and if again plowed just before frost, many more, if not all, will be destroyed. This plan will have to be followed for two or three years before all of the insects are killed. Rotation from potatoes to small grain and plowing twice, as stated above, is another good method. It will be necessary to keep in small grain for two or three years before the plat will be entirely free from the pest.—Journal of Agriculture.

WHEN MELONS ARE RIPE.

Mr. Greiner, who edits the garden department of the Practical Farmer was asked how to tell when melons are ripe. The ripening season of melons is past, but the advice is good any time.

"You might shut your eyes, or blind, and could easily tell by your nose. The ripe muskmelon has a peculiar strong melon aroma. By the changing color of the rind, from the deep green of fresh, active growth, to a dull yellowish shade gives an unmistakable indication approaching or obtained maturity. The never-failing sign, however, is the ready parting of the melon from the stem. When you like the melon and it comes or breaks off easily from the vine, the melon is ripe for marketing. We often find our Emerald Gems and Gold Coins, already loosened from the vine, so that we simply pick them up, and may eat them immediately, as they are the fully ripe. If they have been lifted or even in the slightest degree twisted in order to make them let go from the stem, the melon should be stored in a cool place, and will then, in a day or two, be found in prime condition for eating. Closer observation and better judgment are required to pick out the ripe watermelon in a patch. An expert, however, is seldom fooled. To an inexperienced grower, however, liable to make many and annoying mistakes. As in the case of muskmelons, the changing color is about the best indication of ripeness. The upper part of the melon loses its freshness of growth and becomes a dull, I might say dead, green. Usually the tendril which grows from the vine directly opposite the stem of the melon dies and turns brown or black when the melon has reached its full maturity. The professional melongrower, however, tells more by the sound, when snapping the middle finger from the thumb against the melon, or by simply pressing lightly with the hand, than by any other means. The ripe melon when lightly pressed "cracks" or "snapped" gives that dull sound which the fine and experienced ear of the old melongrower easily catches and knows. In short, it is easy enough to tell a ripe melon of any kind when you know how to use your eyes, nose or ears."

VALUE OF POTATO TOPS.

Potato tops cost the farmer more than tubers in fertility. The same matter of tubers is mostly starch, while the tops contain a large portion of potash, for which reason potash is an essential ingredient in the cultivation of potatoes, as healthy tops and vigorous growth conduce to a large proportion of tubers. The tops of all root crops should be saved and added to the manure heaps.

Before applying the poultry manure to plants, pile it up with the soil, lime, sand and ashes, and let it lie to the weather for several weeks, then work it over several times at intervals of a week. The fertilizer thus prepared is quite strong, and should be applied judiciously. Poultry manure applied freely without composting will ruin most of the plants cultivated in the garden.

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The Ornamental Garden

THAT BACK YARD.
IN SPEAKING of the back yard, I a writer in the Kansas Farmer says:
Of course you raked and cleaned the front yard nicely, but perhaps you forgot the back yard. If you did, see to it now before sickness overtakes the family.

Some people seem to think back yards are only good places to put woodpiles, old tin cans, old boots and shoes, ash heaps, etc. Put the wood pile off somewhere else or clean it up; haul off the old cans and shoes; pound up the broken crockery and glass for the chickens; and, if the ashes are wood ashes, apply them to the potato patch, garden, or orchard. If they are coal ashes, put them in the hen house, on the walks, or in the swamp holes on the farm to fill them up. In the summer we carry all our ashes direct to the potato patch or garden. In the winter we save them to make home-made soap and then put the leached ashes on the potato patch, and have never had any but good results. And here I want to tell you if you burn Osage orange, as many house-keepers in Kansas do, save the ashes to make soap. When we came here no one could tell us whether they would make soap or not. We have just finished making a half-barrel of excellent soft soap, almost thick enough to cut with a knife, and found the lye made from the Osage orange to be equal to that made from the best hickory.

To return to my subject. I have in mind two back yards that I saw as we drove to town one day. One had a bed of mixed chrysanthemums along the fence where it came handy to throw the wash water and how they did grow and bloom! On the east side of the summer kitchen was a vine of Virginia creeper that covered nearly the entire side of the building. On the north side was a bed, the full length of the building, of verbenas and pansies. Farther back toward the barn and henhouse on each side of the walk were grape vines, and in time a trellis will be erected over the walk to support them. There was no rubbish of any kind in sight and the weeds and grass were kept down as nicely as in the front yard where tea roses, pinks and honeysuckles bloom all summer.

The other yard runs riot with old cans, slop-buckets, broken crockery, rags, a large ash heap; and the wood pile is directly in front of and not a dozen feet from the door. Too many of our country homes are in this condition, not so bad, perhaps, but bad enough and they ought to be the most lovely and picturesque.

I heard a city physician say, "People would have better health if they would keep their premises clean; that every old rag, old shoe, and even broken crockery thrown around were sure disease breeders." So clean up, clean up! Burn all rubbish or bury it. Be sure the water supply is not contaminated with the drainage from the barn or stock pens, and that neither vegetable nor animal matter are left to rot and decay around the dwelling place. Use air-slaked lime and copperas water

freely to sprinkle around and in the hog pens, hen houses and water closets. Keep the swill barrel reasonably clean by scalding it out frequently and keep it covered to keep away the flies.

GROWING BULBS IN WATER.
One of the most artistic and inexpensive methods of cultivating blooming plants for home use is to grow bulbs in water. The Chinese are expert in this work and at their New Year festival the streets of Honolulu show a profusion of their sacred lily in full bloom, says the Hawaiian Forester. Very many varieties of flowering bulbs may be successfully grown in water, and it is surprising that this easy method of producing handsome blossoms should have been allowed to remain so long neglected.

In selecting bulbs for this purpose, large, heavy ones should be chosen. In many cities glasses are made especially for the purpose of growing the handsome flowers of the hyacinth, but any open bowl or vase can be used for these and other bulbs.

If grown in an open bowl, the bulbs selected for blooming should be supported with a sufficient quantity of clean small stones or pebbles to allow the developed plants to retain their upright position. Water should then be poured over the stones until it reaches the base of the bulbs. The bowl should now be kept in a cool, dark place until the roots have attained a good growth, care being taken to replace the water as it diminishes. When the bulbs are required to bloom, the bowl should be removed into a light, warm atmosphere, when spikes of blossoms will soon be thrown up.

Besides the Chinese sacred lily or narcissus, many other bulbs can be made to produce blossom in this manner. Among these hyacinths, jonquils and crocuses have all produced satisfactory results.

AMATEUR FLOWER GROWING.
The soil for planting flower seeds or plants of any kind should be mellow and rich, that will not easily pack and become soggy.
In starting flower seeds of any kind only heat and moisture are required until they sprout through the ground. Always press the earth down firmly after sowing all flower seeds, else there is danger of their drying up before their roots get a firm hold of the soil.

Nearly all flowers will bear transplanting. Sweet peas and poppies are usually sowed where they are to grow.

It is best, especially for beginners, to start the season with too large a collection. Choose those which are easiest to cultivate and most certain to bloom.

A frequent stirring of the top soil will aid the plant in making a healthy growth and help to keep the entire soil sweet and clean.

Small Boy (just home from school)—Mamma, Miss Simpson says I'm descended from a monkey.
His mother (glancing severely at her husband)—Not on my side, darling.—Harper's Weekly.

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SPECIAL STOCK NUMBER.

It had been expected to make this issue of the Cultivator a special live stock number, containing articles written by California live stock breeders. The articles have already been received, but we are compelled to disappoint our readers, and ourselves, by deferring the issue one week.

We are able to place the blame entirely on the railroads. Not because that is popular these days, but because they have failed to deliver our car of paper in which the large size paper is contained.

If it takes a bigger sheet to produce a 32-page paper than Los Angeles contains, so we are compelled to wait one week for it to come.

Next week the various breeds of live stock will have possession of the paper and we have some fine articles in hand which will make that issue of value to all lovers of live stock.

Another special issue will be devoted to poultry on December 12, and in January the citrus industry will be given especial attention.

STATE FRUIT GROWERS.

The call to the thirty-third State Fruit Growers' Convention to be held at Marysville, December third to sixth, is issued by State Commissioner Jeffrey and Secretary Isaac.

The object of these Conventions is to bring together the various branches of our greatest industry, to get them into closer relations.

To exchange views and experiences upon all

matters bearing upon fruit-growing, and upon all horticultural matters.

To secure better results for our labors and better markets for our products.

To these ends papers will be presented and addresses made upon all subjects bearing on the fruit industry. These will be open for discussion, and all questions germane to the subject will be answered.

These Conventions have steadily increased in interest from their commencement thirty years ago; have been largely the cause of the great growth of the fruit industry, and have been of incalculable value to the growers of the State, and it is determined to make this, the thirty-third, the best and most comprehensive that has ever been held.

Very many questions of vital importance to all who are concerned in the fruit industry, in any of its branches, will come before the Convention for discussion and consideration, and it is directly to the interest of all to be present.

Arrangements have been made for hotel accommodations, and a local committee will meet all members of the Convention and see that suitable accommodations are furnished each one.

Arrangements will also be made for entertainments and excursions, and every effort will be put forth to make this Convention the best ever held, and the whole affair a most enjoyable one to all who attend.

INEFFICIENT FARM LABOR.

Granting the claim of certain bear organs that this country is to witness a period of hard times lasting several months, there is the question of what will become of the laboring classes during the existence of this period of depression?

It is an open and notorious fact that these never was a time in our history when labor, in all departments of our national industry, was as inefficient as it is today. It extends to each and every calling and is particularly emphasized in the agricultural field. The trouble seems to arise from the tremendous business we are doing, when every workingman seems to feel that he can find employment, anywhere and any time, without regard to how he performs his labor. In general, he has been right, but with a change coming in the volume of business we are to do, will also come a change in the affairs of the workingman.

The task of weeding out the slipshod and shiftless will begin with the falling off of business, if it falls at all, and the first to suffer will be the inefficient laborer. The painstaking, honest, efficient workingman will hold his job, while the inefficient and lazy man will find a prompt discharge.

With no class of employers is this condition more to be expected than with the farmers of the country. They have suffered long and patiently, for they have been most wickedly imposed upon, and they will find early opportunity to rid themselves of the lazy laborers who have had them at their mercy. Not so independent will be the dairy milkers, nor the field hands, nor, indeed, the working girls, for hard times will bring curtailment of household expenses and consequent discharge of the slatternly housemaid. During the past two years the scarcity of help has led to a false presumption, on the part of day laborers, that a job could quickly be secured, no matter what the conditions imposed might be, and this belief has tended to demoralize labor throughout the country. From this idea the farmer has suffered most of all employing classes.

The "Iron Age," although an industrial magazine, states the truth as it applies not only to manufacturers, but to the agricultural classes, when it says:

"The fact will be firmly realized soon that steadiness, reasonable industry, and acquiescence in necessary measures of discipline are primary conditions for employment, and that simple application for work is not the only qualification.

"There is every reason to hope, too, that a lessened demand for labor will be reflected in better quality of work, although in that respect deeper causes have been operative than temporary high pressure of production. The effect of leveling down which has been the curse of the labor unions can not be so quickly eradicated. It is true that the concentration of industry into larger units tends to deprive an individual workman of hope of starting on his own account,

Shop Talk

Perhaps you noticed last week our change in plan in handling subscriptions.

That is, instead of the traveling solicitor coming once a year at your home, the office comes in direct contact with you through mail.

We think it will be better, quicker and more satisfactory to you and to us.

We will send you a little reminder by mail. It will contain a return addressed envelope with blank. Just a moment will be required to fill out and return with the dollar for next year.

Then while writing, of course, you will want to say wherein you want the paper different. Or, send the query you have long been thinking of asking or saying something which brings us closer together.

Then we will have a better paper and will get more out of it, for it's more yours.

Also, while you're sending in, why not neighbor Jones and suggest sending his too? That's a good way of making a paper better.

We trust none will feel slighted if we do not get our little note to you at once. It is a time to get in touch with twelve thousand folks.

It doesn't sound so big, but look at this paper you are holding? It is small and well worth practically nothing.

Yet, 12,000 like it piled in mail sacks on a dray makes a load of over a ton of mail.

Next week it will be well up towards a ton, for that is a larger issue on account of the special stock number.

Should you be impatient at the waiting notice from the office, write in direct. Get to hear from you at all times.

If you ever want address of paper changed, be sure and give old as well as new address.

We're at loss to find your name if you don't.

Also when remitting, be sure and give full address and whether a new or old subscriber.

Watch the label on your paper; it will change within a week or two after you receive it.

Young men have often written in to learn if they could not represent the Cultivator in their section. Heretofore, this conflict with the regular agents. But now we are right in line for that class of young folks.

Christmas will soon be here and a little money will look good. Write us, Circulation Department, and let us show you how to get some of it.

and the necessity for preliminary scientific and technical training is closing him out of the range once open to him, of managers and superintendents. It is further true that in the days of an extraordinary demand the manufacturer has often permitted or even encouraged some sacrifice of quality for the sake of quantity. But granting that all these factors have been at work, there remains a residuum of wretched work which must be directly charged to the spirit in which labor is facing its tasks. It almost seems as though the hard school of adversity can alone bring about a realization of the fact that the world owes living only to those who deserve it."

The farmer will be the first to profit by the changed condition if it should come.

In connection with the copious rains which have fallen somewhat early in the season, let us refer to the roads. The fall is that ideal season for road repair. Work done at this season, especially after rain, will be of value the entire winter through. In adobe soil, or any heavy land, go over the road with a King road drag, fill up all chuck holes and smooth the surface. Let rains will harden the crown and render it durable for a long time. Remember every half dollar you can spare on the road will be money to you and your neighbors in time saved and wear on horses and vehicles. The crying need of the time is for better roads in California.

Agricultural Notes of the Pacific Coast

Northern California

Colusa is harvesting a large crop of alfalfa seed.

Humboldt county is shipping apples to Australia.

Dogs have killed many sheep on the ranches near Colusa.

The recent rain did much damage to the later table grapes.

The dredgers at Oroville are still causing great damage to agricultural interests.

The Butte County Citrus Association has built a new packing house at Oroville.

Siskiyou county live stock dealers have suffered great loss on account of car shortage.

Peach orchardists of the upper Sacramento valley claim this to be the greatest year ever.

The Alta-California Beet Sugar Company, near Chico, has closed operations for this season.

Three hundred cars of grapes from the little town of Florin brings to that section over \$400,000.

There will be a large increase in the average of potatoes next season along the lower Sacramento.

Nevada county farmers are preparing for institutes to be held November 19th and 20th at Grass valley.

Butte County Canal Company is soon to begin the construction of a dam at the head of the Butte county canal.

The California Creamery Operators' Association holds its annual meeting at Davisville, November 22d and 23d.

Robert Ashburner, one of the best known cattle breeders in California, died at his home near Woodland, last week.

A prominent turfman has recently made a purchase near Woodland on which he expects to start a breeding farm for race horses.

Secretary of the Interior Garfield has approved the plans for the Orland irrigation project. This will involve the expenditure of \$650,000.

Sonoma county Board of Supervisors are offering to raise the bounty of coyote scalps from \$5 to \$10, providing Napa county will do the same.

Prof. Hussman, in charge of the Government Experimental Station at Lodi, is endeavoring to produce a grape which will excel the Flame Tokay.

The Colusa county Chamber of Commerce is making a fine display of Franquette walnuts, and it is said they are exceedingly profitable in that section.

An alfalfa grower near Gridley has had excellent returns from sowing gypsum broadcast over the crops, which far more than paid for the additional cost.

State Forester Lull was boycotted at a lecture which he was to deliver on forestry, and only two attendants were at the meeting. This was because of a factional fight over an irrigation project.

It is claimed that the Century Mercantile Company has been of great advantage to wool growers about Dixon and other northern points, because of having broken the combine amongst other buyers.

Central California

Fresno is planning for a citrus fair to be held in January.

The winery at Turlock has crushed fifty per cent more grapes than last year.

Two cars of Turlock Thompson seedless grapes brought \$3000 a car in New York.

The prune market is said to be rather quiet, as the packers are loaded with fruit.

Fresno packing houses and seedling plants are handicapped by the shortage of labor.

The precipitation in eastern Tulare county to date amounts to nearly one inch and a half.

One concern at Tres Pinos made a sale of a thousand tons of hay to a large construction concern.

The Farmers' Co-operative Marketing Organization at Turlock is getting closer to a working basis.

The Turlock Journal is urging the planting of large quantities of garden peas to catch the early market.

Exeter claims to be the first to send out a car of Red Emperor grapes from that section of the San Joaquin valley.

The white orange pickers at Porterville are making a strong fight against the allowing of Japs in that section.

A new machine is being perfected at one of the packing houses at Fresno which fills, weighs and buttons cartons.

The recent rains over the valley caught some of the second-crop raisins, but the great bulk of the crop is off and safely housed.

Nearly all of the fish in the Salinas river are being destroyed by the discharge of certain chemicals from the Spreckle's sugar factory.

The Pajaro valley fair, or apple and strawberry festival, which closed last week was a great big success from all standpoints.

The shipments of apples from Watsonville station amount to about one thousand carloads to this date. This is slightly in advance of last year.

Some growers have delivered raisins to the packing houses so wet from recent rains that they were compelled to take them home and re-dry.

The pulling of beets at Salinas has been stopped by the recent storm, which amounted to nearly one inch. No more beets will be received at the factory this season.

The different sections coming into line with promise of good exhibits at the coming citrus fair at Lindsay, indicate the greatest fair in the history of Tulare county.

Campbell prune growers have formed a pool and agreed with each other not to sell until satisfactory prices are secured. There are thirty-four producers in the pool.

The Visalia Delta says that at the recent fair pumpkins were exhibited that would dress one hundred and fifty pounds and make one hundred and fifty pies "the kind that mother used to make." All Tulare county needs is the girl to make the crust.

Southern California

Long Beach has an ostrich farm.

Redlands is to have a new olive oil factory this fall.

San Dimas Lemon Association has shipped fruit to Japan this year.

Settlers in Imperial valley are winning in their suits to eject squatters.

Hundreds of acres of peanuts were greatly injured by the rains of last week.

Cucamonga and Etiwanda raisins were injured by the recent rain storms.

A car of grapefruit from Big Grove averaged \$8.80 per box in New York recently.

Brawley has experimented in the planting of beans, and is claimed to have made good.

The Chili pepper crop of Orange county will not be half as much as it was last year.

R. L. Bowler picked three hundred tons of tomatoes from twenty acres, at Pomona.

A Halloween "punkin" raised in Santa Ana tips the scales at one hundred and sixty pounds.

Rainfall to date this season over most sections of Southern California aggregates about three inches.

Yucaipe valley is making a fine display of apples in the Riverside Chamber of Commerce rooms.

San Diego county is swelled up over recent awards for her Julian apples at the Jamestown exposition.

Tustin has a cork oak which is not only a curiosity, but shows that cork may be produced in that section.

Hundreds of acres of poppy fields are planned for the hills back of Redlands and seed is now being planted.

Horticultural inspector, Day, of Pasadena, intercepted a package of small plants mailed from Florida and had the same destroyed.

The addition of 80x200 feet of the Upland citrus packing house under course of construction was destroyed last week by wind.

C. E. Bemis, of Covina, has been appointed to take the place of Commissioner Jeffrey of Los Angeles county, who resigned to accept his position as State Horticultural Commissioner.

The new directors of the Victoria Avenue Citrus Fruit Association are: B. F. Straight, S. J. Geo. Roudwaite, W. H. Robinson, James Mills, W. G. Fraser, W. H. Pilgrim, Mr. Whiffin, John W. B. Merriam and Mr. Edwards.

The orange growers of Riverside, in discussing the matter of labor for picking the coming crop, have generally decided that Japanese were so objectionable that an effort is being made to secure Mexican helpers. They fear that the same condition may come to pass there which now prevails in Vacaville.

At a special meeting of the officers of the different organizations, J. W. Crump was elected manager of the Hemet Land & Water Companies, vice-president of the bank of Hemet and secretary of the Hemet Land and Water Companies to take the place of P. N. Myers whose resignation was accepted at that time.

The Coast

Tacoma, Wash., is raising some fine Concord grapes.

Onions are now selling in Portland at \$2.25 per sack.

Oregon produces twenty million bushels of wheat.

Greeley, Colo., is to grow beet seed for commercial distribution.

The value of Colorado's beet crop this season has been \$15,750,000.

Denver hay dealers are shipping large quantities of alfalfa to the Middle West.

The Washington Good Roads Association holds its meeting November 12th and 13th.

Washington State Dairymen's Association will be held at Stanwood, December 18th and 20th.

The sugar factory at Waverly, Wash., was obliged to close down because of shortage of beets.

Over twenty-five hundred deer have been killed in the mountains of Colorado this open season.

The Gresham fruit fair and carnival, ending recently, was one of the most successful of its kind.

The Hood River apple crop, it is estimated, will be about one hundred and twenty thousand boxes.

A flour mill with twenty thousand bushels of wheat was destroyed at Fort Morgan, Colo., last week.

Yamhill county, Oregon, has recently planted between six and eight hundred acres of English walnuts.

After receiving freight cars for a short time the fruit growers of North Yakima are again suffering from shortage.

One million two hundred and sixty thousand cantaloupes were moved daily during the shipping season at Rocky Ford, Colo.

In addressing an audience of farmers at Bridgeport, Wash., Gov. Mead's platform was on top of a six-horse load of wheat.

The fifteenth annual international convention of the Northwest Fruit Growers' Association will be held in Vancouver, December 5 and 6.

The registration of the first three weeks of the Oregon Agricultural College showed an enrollment of eight hundred and seventy students.

A Hood River fruit grower who owns a coreless pear tree, has refused a \$2000 offer for it by a nursery company, which wished it for securing the cions from it.

The farmers in Weld county, Colorado, are organizing to send agents to New York and Galveston to bring emigrant families to do the common farm labor of that section.

Farmers' Institutes in Marion county, Oregon will be held as follows: Jefferson, November 12th; Aumsville, November 13th; Liberty, November 14th; Jervais, November 15th; Hubbard, November 16th.

The Oregon Legislature has enacted a law by which any unreasonable delay in supplying cars for transporting products may be charged up to the transportation company in the same way in which it charges demurrage on cars from which freight is not promptly unloaded.

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2 BUSHEL
SACK

\$1.90

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Buy the World's Famous Egg Food No. 4

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IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by all largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis Worlds Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Flicher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland.
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis and Clark Exposition."

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Main Office and Factory, Petaluma, Cal., Box F.
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Beef Scraps Raw Bone

GUARANTEED ANALYSIS:

Protein.....65%
Fat.....8%

Made of Cooked and Dried Livers, Lungs, Melts and Clean Scraps. No fertilizer ingredients in these Beef Scraps.

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Made of Clean Beef Bones, surplus fat removed. Cleanest Raw Bone on the Market.

Pure, Clean Animal Matter Poultry Foods

WESTERN MEAT COMPANY SOUTH SAN FRANCISCO CALIFORNIA

Lincoln Avenue Poultry Yards

—Capt. Mitchell's S. C. White Leghorns—

Utility birds of the highest grade. They will average from 150 to 280 eggs per year. The eggs will average 2 ounces and over in weight, with smooth, white shells.

Just a few breeders left at half price. **Positively no culls.**

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Clover Cutter

Every Chicken Raiser needs one.

Price \$7.50

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Beef, Blood and Bone Will Make Your Hens Lay

This is not a medicine but a high grade nitrogenous food. Write for free booklet "How to make Hens Lay." Our Poultry Foods are sold by all local dealers and manufactured solely by

The Pacific Guano and Fertilizer Co., Indiana and Yolo Sts., San Francisco, Cal.

Also Pioneer Manufacturers of High Grade Fertilizers.
Write for our free booklet, "Farmer's Friend." Valuable to all farmers and ranchers.

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experiences with poultry. All inquiries pertaining to feed management, disease and its prevention will be answered through these columns.

BRFEDERS' ASSOCIATION MEETING.

THE regular monthly meeting of the Poultry Breeders' Association of Southern California was held Thursday, Oct. 24th, in the Chamber of Commerce building. After the regular routine of business, at which time seventeen new members were admitted, the audience was favored with a scoring demonstration by Judge Gunston, the best informed Rhode Island Red judge on the Pacific Coast, who first scored a Buff Leghorn pullet, then a Buff Wyandotte pullet, but owing to the molting condition of the fowls a few imperfections had to be overlooked. The time allotted for this part of the entertainment was so limited that Judge Gunston was unable to take time to explain all his cuts and answer the many questions fired at him.

At the next meeting to be held Friday, Nov. 29th, Judge G. Goodacre will score Orpingtons, when we hope to be able to grant more time for this entertaining and instructive feature.

Following immediately after Judge Gunston, Mr. L. E. Berkey was called to talk on the subject of

Better Prices.

I have been given for my subject tonight, "Better Prices for Poultry and Eggs," but I believe that there are many present who are more competent to talk on this subject than I. It is a subject worthy of much thought, and before I speak of it I will take up a few preliminaries.

If I had no particular breed and was starting into the poultry business, then I would select some breed and ascertain who makes a specialty of producing laying birds of that breed. Several of the poultry experiment stations have done good work in developing good strains. There are two that have made more progress in this direction than the others; that is the station in Maine and the one in Utah. Prof. Crowell of the Maine station has been experimenting for a number of years with the Barred Rocks, and I believe with others, but these were his favorites, and he has carried them through until he has a great many hens that lay 200 or more eggs per year.

In the Utah station, the man in charge absolutely knew nothing about poultry, but was appointed through political influence, and was put to the task with an unbiased mind. He started in to ascertain which was the best breed, and soon learned that not so much depended on the breed as upon the strain. He had the best success with White Wyandottes and Brown Leghorns. This does not mean that these are necessarily the best breeds.

Now, how to arrive at this knowledge is a matter of opinion. From those who have already experimented along this line, we learn that about the best way is to select the best layers, the ones that lay the largest and most eggs and breed from them. In this way in the course of a few years you have developed a good laying strain, provided the strain has strength, which

is an important essential. So much for preliminaries.

What Fullerton Hoped to Do.

A brief study of some of the aims and hopes of the Fullerton association, although they have not lived up to them, may be of benefit to this Association. One of its first aims was to get a number of people together who would produce to buy all their stuff together, thus obtain a better grade and better prices. Their next aim was to obtain better prices for their product and to accomplish this, they wanted to market them together. This was not accomplished for several reasons. In the first place, it was considered that in order to secure the best prices for eggs they should be absolutely fresh. Eggs gathered every day and marketed once or twice a week should command higher prices than the average egg. Every grocer knows that out of a purchase of eggs, from some source or other, he will get eggs that are not fresh, and he knows that if he sends these to the produce men a certain number will come back; as the result is a lower price for eggs is paid by the merchants, than if the eggs were fresh and clean. Therefore, if by combining their production and taking it upon themselves to gather their eggs every day or every other day, their eggs would command better prices than the ordinary.

They hoped to inaugurate a system which would require a number of persons to go over a large area every day, say in the afternoon, to gather up all the eggs laid that day. If they were placed in new cartons, one, two or three dozen, and sold in that original package, sealed and stamped with the date when the eggs were laid, and were absolutely guaranteed, how much do you think those eggs would be worth more than the ordinary eggs? Do you think they are worth 10 cents more? It is worth about five cents for extra care and the merchant would be a great deal rather have them. I am certain the housewife would much prefer them. The Association at Fullerton thought that if the plan could be tried and carried out successfully in one community, that would result in several communities adopting the same plan, and all marketing their eggs under certain well known brands, and under these conditions their product would be placed on the market at advanced prices. At present the price of eggs is largely determined by the produce exchange, their method of determining the price is by buying all the eggs as cheaply as possible, and I believe that all the large dealers go together and control the surplus and market them at the advanced price themselves. It is a business proposition, which will require careful thought and attention to work out and is not necessarily a trust or monopoly in its execution.

Trap Nest.

I believe that every poultryman should trap-nest his birds, so that he can determine which are the best layers. The Hogan and Potter systems are both good, but with the

LILLY'S BEST SCRATCH FOOD

A perfectly balanced mixed grain feed strengthened with beef scraps, granulated bone, charcoal, grit and shell. It is rich in all the elements necessary to make hens lay and feathers grow. Practical poultrymen praise it highly.

"My chicks never laid more eggs than when I fed them Lilly's Best Scratch Food." J. F. JURGENSEN, San Jose, Cal.

"I never had such a wholesale production of eggs as I have since feeding your Scratch Food." J. W. DAKON, Burlington, Wn.

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"My hens are laying lots more eggs since using Lilly's Best Scratch Food." L. FERRIS, Everett, Wn.

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BUFF, WHITE, BLACK ORPINGTONS.

EGGS—PRIZE WINNING OR BREEDING STOCK
One bird or Fifty—One setting or 1000 eggs that hatch, at prices in proportion to quality. Orders booked now for delivery.

We want you to see our place and birds, and will give you a reduction on purchases if you will call in person, but if you can't come send for our catalog. Worth money, but free. 1 blk. north, 2 east of P. O. P. O. box 125. Altadena, Cal.

Newbert's White Leghorns

Are the best in the State. I proved it at the last State Fair, winning four of the five firsts from the best breeders in the State. Hatching Eggs, \$6 per hundred, \$1.50 and \$2.00 per setting.

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I Don't Want Them Do You?

Mann's Clover Cutter, Daisy Green-Bone Cutter, Wire Fence Machine—weaves fence, any height up to 60 in. and any sized mesh from 1 to 12 in. All of the above are in perfect order and will be sold at a bargain.

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Spargur's Trap-Nested White Leghorns

Laying Pullets six and seven months old from above hens, at \$15.00 per dozen. Also I. R. Ducks and Drakes at \$9.00 per dozen.

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The World's best layers. Our folder for '07 is ready. Drop a postal to

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When writing advertisers, mention Cultivator

trap. nest he is less likely to make mistakes. By proper attention to your birds and the handling of their product, you can always obtain better prices than if they are neglected.

Now, I hope that these few suggestions will make things a little clearer and fix in your minds to such an extent that it will result in a move for better conditions.

AROUND THE YARDS.

Are you prepared for the winter?

* * *

The pure food law ought to be applied to the hen yard.

* * *

Don't feed on the ground, especially when it is muddy.

* * *

If you keep your birds busy they will not lose their appetites.

* * *

Ducks ought to be dry at night, so give them a nice dry place to roost in.

* * *

Don't allow the water to stand in pools in the yards; either drain or fill them up.

* * *

If your hens are through the molt now they are pretty certain to lay well this winter.

* * *

See that the laying hens are well supplied with lime in some form. If this is neglected, you are apt to have soft-shelled eggs.

* * *

There are 350,000,000 idle eggs in the cold storage warehouses of Chicago, which is 100,000,000 more than were in the freezers here last year.

* * *

It takes less capital to begin the poultry business than other lines. But it takes just as much brains and just as close application and as much work as any business, if we would succeed.

* * *

Whitewash.

Will you please send the White House wash for hen houses through your valuable paper.—A Reader of many years, Tulare.

The whitewash used by the U. S. government is made as follows:

Slake in boiling water one-half bushel of lime. Strain so as to remove the sediment. Add two pounds of sulphate of zinc; one pound of common salt and one-half pound whiting, thoroughly dissolve. Mix to the proper consistency with skim milk, if possible; if not, use hot water. This can be colored if desired by using yellow ocre, lamp black, etc., and is a good substitute both in appearance and durability, with a good quality of paint.

* * *

Breeding Reds and Andalusians.

Is double-mating system used in breeding Blue Andalusians and Rhode Island Red chickens? Is it advisable? What publications deal most extensively and practically on their utility and show records, their breeding and care?—R. K. H., Olin-da, Shasta county.

We know of no one that uses the double-mating system in breeding Andalusians or Rhode Island Reds, although some may practice same. We would not advise the double-mating system for the above breeds; many breeders in breeding exhibition Barred Plymouth Rocks, Brown Leghorns and Indian Games practice the double-mating system.

We know of no work published on Andalusians. The Rhode Island Red Club issues a club catalogue called "Red Hen Tales," which contains



After selecting the nice, trim, shapely pullets for winter layers, fat the culls and young cockerels for early market. This is a profitable adjunct to the poultry business—and when properly carried on is like finding good money. Try it and make a good thing better by giving regular portions of

Dr. HESS Poultry PAN-A-CE-A

in some one of the daily feeds. Its use corrects any tendency toward indigestion and a consequent "going back" in the condition of the fowl. Poultry Pan-a-ce-a is the prescription of Dr. Hess (M. D., D. V. S.) and is endorsed by leading poultrymen and fanciers in both Canada and the United States. It is composed (besides bitter tonics for digestion) of iron for the blood and the cleansing nitrates which expel poisonous matter. It fats fowls in less time than can be done by any other way of feeding, makes chicks mature early and hens lay abundance of eggs. It is also a germicide and prevents disease. A penny's worth feeds 30 hens one day. Sold on a written guarantee.

1½ lbs. 35c.; 5 lbs. 85c.; 12 lbs. \$1.75; 25 lb. pail \$3.50.

Send 2 cents for Dr. Hess 48-page Poultry Book, free.

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Baby Chicks All Standard Breeds Eggs

We are the pioneer hatchers in this section. Chicks can be shipped 1,000 miles without loss. Our chicks are hatched in a 25,000-egg incubator and are strong and healthy. We make no extra charge for crating and can sell cheaper than any others in this line. Write us for prices on any Standard Breed in any quantity. Eggs from all breeds. Incubator Lots a specialty.

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Single Comb Buff Orpingtons
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Orpington and Rocks \$2 per setting; \$6 per 100.
Duck Eggs \$1.50 per 12.

Write your wants. Correspondence carefully answered.

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Mammoth Bronze Turkeys

One and Two Year Old Hens and
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For Breeding

Well Bred, Carefully Selected Cockerels
Good Style, Good Size, Pure White Birds

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Is balanced exactly right to make Chicks grow and thrive. It will raise 98% of your Chicks. Give it a trial with your next brood.

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At G. A. Prices

For the two weeks beginning Nov. 4th, we are going to cut prices regardless of cost. We call it our G. A. sale. That might mean Great American, but it doesn't. It simply means that we want to Get Acquainted. We have a fine, large store, full of first-class goods, and we are making this sale so that you can't afford to stay away. Just look at these sample prices and see if you can.

Beef scraps 7 lbs. 25c 3.00 Cwt
None better made—carload on the way.
Meat Meal 7 lbs. 25c 3.00 "
Blood Meal 6 " 25c 3.25 "
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Clam Shell 20 " 25c 1.00 "
Oyster Shell ... 16 " 25c 1.25 "
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Alfalfa Meal ... 16 " 25c 1.25 "
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Some Egg Foods are sold per sack which vary from 75 to 90 lbs. Get 100 lbs. in yours.

West Coast Scratch Feed 10 lbs 25c; 2.10 Cwt.
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The biggest seller on the market today. If you haven't tried it you ought to, and this is your chance

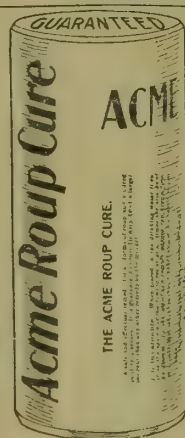
The above prices are but samples of our cut rates. The prices of everything in the store are cut in the same way. Come and see. Or if you can't come let's Get Acquainted by mail. Don't forget that there is none better than the IMPROVED PACIFIC INCUBATORS, and they are included in this sale. We shall keep open store until 9'clock, Tuesday, Thursday and Saturday evenings during the sale. Come and see us.

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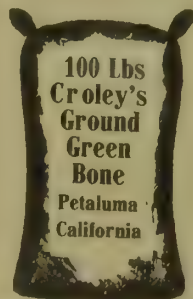
Acme Roup Cure

Cures Roup and Colds

How? It's dead easy. Just place the medicine in the water, the fowls drink, and before you know it the fowls are cured.

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Are You Using It?

If Not, Try a Sample Sack

We believe this Green Bone is as good or better than beef scraps costing much more. But the better way is to try it and convince yourself.

Price, \$2.50 per 100-lb. Sack

George H. Croley
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Petaluma, Cal.

White Rocks

Our fall matings will be made so as to supply eggs by Nov. 1 from some of the finest pens we have ever handled. Eggs, \$1.50 to \$2.50 per 13—\$8.00 to \$12.00 per hundred.

White Leghorns

Black Langshans

We can supply eggs after Nov. 1 in any quantity. Stock the best on the Coast. Eggs, \$1.00 to \$2.00 per 13—\$6.00 to \$10.00 per hundred. We have some of the highest scoring fowls of this variety in America. Eggs after Nov. 1. Eggs, \$2.00 to \$5.00 per 13—\$10.00 to \$20.00 per 100.

Watch our show record during the Poultry Shows.

Foster's Poultry Yards, 128 W. Avenue 41, Los Angeles

much information on the Rhode Island and Red. If you will write to E. L. Preckett, Hazardville Conn., enclosing ten cents, you will receive one of the books.

Suggestions and Plans.

Would it not be of general interest to get up some kind of competition plans or drawing for the best arranged and most convenient chicken yards; the many ideas submitted might help your readers to get suggestions that would assist them in their work and also be valuable for those starting new yards.— M. E. Mathews.

The above suggestion is a good one, and if the readers will send in their plans, the Cultivator will use the best, or what we consider worthy. That is, will have cuts made and run same in this department.

We would especially like to hear from our readers in the way of short articles or home remedies, for our Around the Yard column.

FARM DEDICATION.

Continued from First Page

izing of the intellect without regard to its human relationship or the conditions under which the man was to live. Its purpose was to spiritualize or humanize the mind independent of any other purpose. Its ideal was education for education's sake. In the schools dominated by such standards, the classics were taught, as were the languages, living and dead, mathematics and literature. The product of this system, in the better class of cases, was a delightfully cultivated man with refined tastes and delicate sensibilities, but utopian, idealistic and inefficient. He had learned neither man nor things, and the best that could be said of him was that he brought to this task a mind trained to think and a judgment strengthened by systematic cultivation. But when learning spread, when industry diversified, when education came to be looked upon without awe or blind veneration, it was plainly seen that by this process too many men were wasted, too few were helped. For the better type of men with certain aptitudes it was admirably adapted, but with respect to the great body of men, they were incapable of realizing its best results, while they suffered the detriment of being trained away from the realities of life without having been trained into any of its so-called higher purposes. The result was criticism of dead languages and wasted years, and a demand that men be taught in the schools the things they were to do in after life. So after centuries of forming judgment and decades of effort, the sciences were forced into the schools, and chemistry and physics and botany and geology and mechanics became regular subjects of instruction in our schools and colleges and universities. They were forced in from the outside because they were useful, and they were slowly and reluctantly accepted on the inside because of their cultural value. When the educational mind

became thus liberated it began to see things in their reality, and to have come to have a new conception of what constitutes sound mental training.

As a result, following science, we have admitted manual training, domestic economy and commercial courses into the schools with splendid results. We have found that while they were intensely practical, teaching the young man or woman the things he or she would later have to know and do, they have likewise contributed to the finest mental culture. Without enlarging upon the idea it is enough to say that the conquest of the previously scorned utilitarian in education has been complete, and the schoolmen have found that the highest purpose of education is to develop the well-balanced, completely rounded man, and this can only be done by training the heart, the head and the hand. The schools must cultivate the heart, that is, build character, they fail of their best purpose.

They must train the mind to its strength and health and sympathy. And lastly, and with great emphasis, they must train the hand, the foot, because of its educative reaction and because it is the only means through which the mind can get expression to its conceptions. In other words, education now recognizes its obligation to train the whole man and not a part of the man. The old division of subjects into cultural and utilitarian has been abandoned as artificial and arbitrary, and we have come to know that no thing or fact or factor of life lacks cultural value, provided it is truly viewed and is given its proper interpretation. Out of this conception has come the great movement for agricultural education which, tersely defined, means or teaching the things related to farm life in a broad and systematic way.

Our Duty—Our Opportunity.

Prof. E. J. Wickson was most heartily received, and in his address, said:

It is proposed to make this the greatest field of research in the world. Agriculture is mentioned as one of the principal subjects to be taught in the university. This was determined by the regents about eleven years ago, and that declaration has been adhered to. In 19 there were thirty-one pupils of agriculture. Now there are 124. The range of subjects and the number of instructors has increased proportionately. The attitude of the people toward it has been friendly, and the appropriations for it have increased steadily. No other State presents such opportunities and conditions as this. We have here an epitome of the world's agriculture except of the tropical products, there is no State where the people uphold it more fully, nor one in which agriculture is so highly thought of by non-agriculturalists. Our duty, then, is defined by our opportunity. I laid down the system to be pursued in order to make the most of our possibilities. Three things are needed to secure the best results—money and the time to work together.

Teaching Dairying From a Picture of a Cow.

Professor E. W. Major said that was one of the happiest days he had known. He had graduated in Minnesota. Since he had come to California he had longed for a farm. At the university they had no livestock and he hoped, now that it was a farm, he would never have to leave California. It is pretty hard work to teach a man anything about livestock when you have only a second story and a picture of a cow.

The many talks or addresses were of great interest, and the dedication and institute was most successful.

Some of the papers will later appear in the Cultivator.

NEW CATALOGUES.

The Fresno Nursery Company is out with a fine new catalogue of deciduous and citrus trees and all kinds of grapes. It is illustrated with views of the office and Fresno yard and of nurseries and working force in the nursery.

Mr. Wilson has had long experience in nursery business and puts out fine trees and vines.

A NEW DEAL IN FARMERS' INSTITUTES.

It will have to be admitted that the system of farmers' institutes maintained in California has not been an unqualified success. The institutes have been worth all that they have cost and far more than they have cost in effort and in money, but they have lacked much of educating the farmers of California in what they most need to know.

There is in California, as elsewhere, a certain fatal self-satisfaction which prevents those who have it from keeping up with the times in which they live. This would prove fatal to any other occupation except farming. In manufacturing the owner who does not seize upon and use every new device, every trick in the trade, is soon forced into bankruptcy by the keenness of competition. In merchandising, failure to keep abreast with the times puts a padlock on the door, and ninety-five per cent of all those who go into merchandising come to that end, mainly from that cause.

California has surpassed other States in the fruit industry because the marketing of fruit got into the hands of enterprising men, who found out how to prepare the fruit for market in tempting ways, and thereby were able to meet competition that possessed every other advantage, and meet it successfully. They sold California pears in New York when New York pears were being fed to hogs for want of a market. The New York growers did not know how to market their product.

California is a long way from markets. One way it has to cross 2000 miles of arid America to reach the threshold of a market, and the other way 6000 to 8000 miles of ocean. Unless its products are handled in the best possible way they cannot reach markets at all. Again, California does not produce staples so much as luxuries, and her line of production must be in the direction of highly specialized and intensified agriculture. The rule of thumb will not win such results in California, with its specialties and novelties, as in the Mississippi valley, with its staples of hogs, corn, beef, wheat and hay.

And yet it is precisely in those States of the Mississippi valley that farmers' institutes have proven most successful. They are held in every little hamlet and are largely attended. They do not cover as wide a range of subjects as do our own institutes, but they get down closer to the problem of an increase of productive power, and in a way that makes the farmer know that the institutes mean dollars to him.

There is reason to hope that the university extension idea of popular agricultural education will bring the farmers' institutes closer to the farmers of California, and, in bringing the institutes closer, they will bring the university closer to the people. That, too, is important to both university and people. Farmers are skeptical of the value of the knowledge of professional men until they are brought face to face with that knowledge in practical ways, when seeing becomes believing.

California has stood by the institutes as liberally perhaps, as the interest justified, but with increased interest there will be an increased demand for support for the institutes, and that support will be forthcoming. In the new deal for the farmers' institutes in California The Union sees hope of progressive educational work. — Sacramento Union.

Coulson's Improved Mash Egg Food

Takes
Less
Feed



Makes
More
Eggs

IF YOU WANT PLENTY OF EGGS THIS FALL AND WINTER when prices are high, you must lay your plans now. The hens must be given a strong feed which will enable them to get through the molt without loss of condition, and they will then quickly commence laying again.

First, see that your hens are healthy when they start to molt. At this time of the year, after a heavy laying season, they are apt not to be at their best, and a little of **COULSON'S NO. 3 CONDITION POWDER** will put new life into them, and enable them to thoroughly digest and use the good food which they specially need.

At the same time they must have the best food you can give them from the commencement of the molt. You will find **COULSON'S IMPROVED MASH EGG FOOD** is just what is required. It is strong in protein, due to the blood, meat, bone and oil cake meals which it contains.

Put Up in 90-Pound Sacks Directions in Each Sack

Your hens will not need to eat so much of the concentrated food to obtain the egg-making and feather-producing materials they need, thus saving their digestive organs and your pocket at the same time.

COULSON'S IMPROVED MASH EGG FOOD is therefore beneficial in two ways. Less feed is required and the hen gets just what she needs, with the result of a quicker molt and more eggs.

First cost is not everything, but even in this respect **COULSON'S IMPROVED MASH EGG FOOD** shows to advantage. A 90-lb. sack will make a meal for 1250 hens. This is just over 2 lbs. a hen a month. Think how many eggs does it take to pay for this feed? In November, only 1 egg, and not more than 2 on the average.

We know what this feed will do by results on our own poultry ranch, as well as from testimonials from pleased customers all over California. What it does for others, it will do for you.

Give a trial order to your dealer; if he does not keep it, write to us, and we will either advise you where you can get it locally, or supply you direct.

Manufactured by

Coulson Poultry and Stock Food Company

Petaluma, California

Germain Seed Company, Distributing Agents, Los Angeles, California

50 Cent Eggs

You may feed grains alone until doomsday and you will never get many of them. You must supplement grains with some highly nitrogenous food, rich in protein, to keep the hen in good health, build up her system and furnish her with the material for making eggs.

Egg-More

is just this and nothing else. It is not a strong tonic and stimulant, but contains enough condiments to give the food relish and keep the fowls in fine fettle. Just a little fed daily with good grains, or even with bran will do it. It can be fed either dry or as a mash. The hens like it, they eat it, there is no waste. It makes the very cheapest Egg Food, especially if you can buy your grains at home cheaper than to ship them in. The cost is but a very small per cent of the increased egg production. 4-lb. package, 35 cents; 25-lb. pail, \$2.00; 50-lb. sack, \$3.75. If your dealer doesn't keep it, we will deliver a pail or sack freight prepaid by us.

West Coast Stock Food Co.

818 San Fernando St. (Through to Alameda) Los Angeles, Cal.



Did You Ever Hear of an Offer Like This?

Useful and Beautiful

No other firm could afford this but us

This is the first time we have ever made this offer—this beautiful 4-piece set of Silverware (guaranteed;) full size for family use packed in case,

For Only 97c

It is done solely to advertise our product and only one set will be sent to each family, with positively no duplicate orders. The plate is heavy and the pattern one of the latest and most fashionable—the famous "Rose." The pieces are fit to grace any table and will last for years.

ORDER TO-DAY This price includes all packing, shipping and delivery charges prepaid to your door. Send cash, money order, or 2c stamps to

Rogers Silverware Co., No. 114 Fifth Ave New York

After October 15th, 1907, we will be located in the Brock & Feagans Building, 437-439-441 Broadway

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We sell only absolutely flawless gems of finest cut and color. The buying advantages of our three large stores mean a saving for you.

CATALOGUE No. 10

illustrates 80 pages of best Diamonds, Watches, Jewelry and Silverware. It is free.

Write for it to-day.

BROCK & FEAGANS
Jewelers

Perfect Blue White Diamond in 14K Gold hand carved Tiger Claw Mounting for Gentlemen. \$45.00 and upwards

Perfect Blue White Diamond in 14K and 18K Gold Tiffany Mounting, for Ladies. \$35.00 and upwards

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LOS ANGELES, CALIFORNIA

Do You Know You Owe

Yourselves an Acetylene Gas Machine that you may have the conveniences and pleasure of the best known light and gas to cook and iron with on the hot days that are coming. We have a good machine that works right, and our best friends are our customers. We want more friends! You will be one if we serve you! Write to us just as though you had known us all your life, and we will be glad to answer or send some one to see you.

Yours for light,

20th Century Light Co.

609 E. Seventh St., Los Angeles, Cal.

THE ORIGINAL DeLOACH SAW MILL

For 25 Years the Standard Copied by Many Equaled by None
MILL MACHINERY OF ALL KINDS
Engines, Boilers and Gasoline Engines
We Pay the Freight

DeLoach Mill Mfg. Co., Box 335, Bridgeport, Ala.

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Erinose.

I am sending a leaf of Mission grape, which seems to be infested with some kind of fungus. What is it and what is a preventative?—It seems to be spreading.—W. A. Bain.

The grape leaf sent in by one of your correspondents is affected by an insect trouble, known as 'erinose. This is caused by a very small minute insect, a species of mite, which attaches itself in spots to the underside of the leaves and causes the peculiar growth seen in the specimen.

Another similar case is often seen on walnut leaves, which are affected by an insect of the same kind. Bulletin No. 136, of the Experiment Station at Berkeley, is devoted to the subject of the erinose of the vine, and treats the matter fully.

No serious injury commonly results from the attack of this insect, and the trouble is not usually considered as one requiring any treatment. It is very common all over the State in vineyards.—Ralph E. Smith.

Frozen Walnut Trees.

Last winter some of my walnut trees were frozen to the ground almost, and shoots have grown out from the trunk. Have cut away all but one, but my trouble is that the trunk has died on a slant. Would it be best to chisel or cut away all the dead wood until I have reached the green growth of bark? If let alone the trunk would rot. I allowed the old trunk to remain so that I might tie the new growth to it. I haven't watered any this season and hope to avoid the effects of frost.—H. S. T., Lordsburg.

It will be best to cut away the dead wood as you suggest, though if cut to within one-half inch of the live bark it will be close enough, and will probably be safer than to cut closer, if the work is done before the tree begins to grow in the spring.

If you will whitewash the trunks of the trees and also well up into the branches it will act as a preventative to the starting of the flow of sap in the winter, if warm days come. This flow of sap sometimes sours and causes the tree to die back as if frozen when cold weather follows.—J. B. N.

A Good Cow.

I have a cow that dropped her second calf in October, 1905, since which time she has been milking continuously. From September 1, 1906, to September 1, 1907, she gave 3093 quarts and is now giving 6 quarts a day. She is due to come fresh the first week in December. Old farmers tell me I should dry her off and give her at least six weeks' rest. Is this in accord with the idea of up-to-date dairymen? If not, how long should she rest. W. P. RUSSELL, Claremont.

It is too late to dry off this cow safely. There is a drop in milk for a few milkings at about three months before calving time; then is the time to dry the cow off slowly so that she is completely dry six or seven weeks. If you dry her now it will make trouble, as the new milk will begin to swell the udder before the secretion of the old milk has completely stopped. This nearly always brings on garget. Milk and feed this cow

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

to carry her over the time. Feed bran freely as it is cooling, and just before calving see that the bowels are well moved, if then not loose.

Milking Machine.

Is there any milking machine just milking one cow at a time. If so please let us know the address through the columns of the Cultivator.—S. B., Modesto.

The foot-power machine which advertised in the Cultivator by the O. J. Weber Co., of Los Angeles and the Steiner Co., of Berkeley, is for two cows at the same time, but one side may be closed, and only one cow milked at a time if desired.

Bleaching Nuts.

Is the bleaching of nuts prohibited?—I. W. M., Escondido.

We know of no prohibition, that is so far as the pure-food law is concerned. The chloride of lime process is covered by patents so that royalty is demanded now if the process is used. Many walnut growers are now using the sulphur bleach.

Compelled to Dip.

Will you please tell me whether there is a law in this State compelling people to dip their cattle in order that the Texas fever tick may be done away with. W. M.

There is a law providing that when the State Veterinarian finds any cattle infected with Boophilus Annulatus ticks he is required to notify the owner or person in charge of said cattle to dip or otherwise treat said cattle for the purpose of eradicating such tick.

Ferrets.

Where can I get ferrets? W. S., Turlock.

We do not know whether they are bred in California or not. New London, O., is the great ferret center of this country. H. M. Messenger of that place can give information.

Olives.

Kindly name the olives which are mailed under other cover. They are from Big Springs ranch near Hemet.—W. J. P., Hemet.

The green olives are Oblonga, they are, so far as one can be positive, of varying conditions and sometimes of the same tree—so that no one can positively identify without knowledge more. The ripe olives have been submitted to olive growers, and owing to their being shriveled and of shape on arrival, we have not been able to get any to whom they were submitted to hazard a guess.

The Oblonga is a fine olive and worthy of further cultivation.

Trouble With Cow.

What can I do for an extra good heifer having one calf. She comes around regular every twenty or thirty days, loses on her milk each time for two or three days. The animal is all right in every way I am sure. In three or four days she throws blood and does not care to eat as hearty as she does at other times. Can anything be done to remedy this condition? A. R. G.

Yeast treatment will probably

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

ring this cow all right. When she
ext comes around take a cake of
ny of the commercial yeast and set
with either potato or flour, when
is light add a pint of warm water
nd strain it. Inject into the cow's
agina, after twenty-four hours
reed her.

arlic.

Would a sandy loam be good for
ising garlic and how is it planted
nd what time is best?—Subscriber,
windale.

Yes, sandy loam is ideal land for
arlic. It is of the easiest culture,
rowing freely on any soil suitable
r onions. It is propagated from
lvision of the bulb called "doves"
r "sets." Plant in January or Feb-
uary in rows one foot apart and
pur to six inches in the row. It
akes four to five months to mature,
nd is harvested like the onion. Al-
rays sold in the dry state. If Los
angeles seedmen do not handle the
ets I think they could be procured
n San Francisco. If Subscriber in-
ends to grow them for market, as
wants to be sure of his market, as
he demand is limited to foreign
opulation. If he wishes only to
row for his own use, it is another
matter, and he could use some of the
product in the green state, as with
onions.—Q. A. L.

IMPORTANT MEETING.

A general meeting of the River Im-
provement and Drainage Association
of California is called for Monday,
November eleventh, 1907 at 10 a. m.
at the headquarters of the associa-
tion in California building, Union
Square, San Francisco.

The members of the "California
delegation to Congress will be pre-
ent. The principal object of the
meeting is to present to the Con-
gressional representatives the views
of the people regarding the assist-
ance that is desired from the Federal
government to improve California's
waterways. You are urgently re-
quested to be present.

The general public is invited to at-
end the meeting, which promises to
be of great interest and importance.
Simultaneously with the meeting

Veterinary Instruments, Black Leg and
Anthrax Cure, Milk Fever Outfits. See
J. J. Weber Co., 555-557 S. Los Angeles
street, Los Angeles.

of the River Improvement and
Drainage Association other matter
pertaining to California's interest
will be presented to the Congres-
sional Delegation, and it is hoped that
all those who have something to
present will do so at this time. The
members of the delegation are very
glad to receive suggestions from the
people of the State, and at this meet-
ing a good opportunity will be given
to discuss all matters in a most thor-
ough manner.

COULD NOT DO WITHOUT IT.

We are greatly pleased with your
paper and could not do without it.—
A. Banlin, Headlsburg Sonoma
county.

IT'S PENNY WISE.

Policy to set out a good tree, cost-
ing good money and then let the sun
burn the bark or the rabbits gnaw
it when for \$1.00 an acre you can
get Yucca Tree Protectors that are
practically indestructible. Write for
free sample of the wrap. Yucca
Manufacturing Company, 1380 Willow
Street, Los Angeles.

**HOLTVILLE, IMPERIAL VALLEY,
CALIFORNIA.**

We beat the world six weeks on
grapes, cantaloupes, asparagus and
fruits. Pasture for stock all year
around.

This means high-priced land. Buy
now while cheap. WHITE &
BRIDENSTINE, Holtville, Imper-
ial County, California.

For practical cow milking machine see
O. J. Weber Co., 555-557 S. Los Angeles
St., Los Angeles.

White Wyandotte Eggs For Hatching

All my hens are tested layers. Prize-winning, large egg laying strain. Come and see my exhibit
at the Los Angeles County Poultry Association, December 5 to 14, '07, 415 to 419 S. Hill Street,
Los Angeles. **Mammoth Bronze Turkeys**

Mrs. C. D. Hubbard, Box 282, San Fernando, Cal.

Everything For Spraying

Whatever you want for spraying, be it pumps, equipment, or materials, write to us. We can supply
promptly and at reasonable prices, Bluestone, Caustic Soda, Arsenate of Lead, Hose, Nozzles, Alumi-
num Spray Rods, everything.

**Bean Spray Pump Co., 161 West Santa Clara St.
San Jose, Cal.**



**The Largest and Finest Stock of Furniture
in the West**

Satisfaction

Is a Very Essential Feature
When You Are Buying Furniture

Do not buy furniture because it is offered
on special sale at apparent great savings.
If the reductions are genuine the quality is
usually inferior and seldom gives satisfac-
tion. Consider carefully the quality, style
and making. It is the long use that tells
the story. Furniture is not bought for one
or two days' use. It is to be associated with
your home for years and if it is not well
made, good substantial furniture it will
never give satisfaction.

Prompt delivery in perfect condition.



Pease Bros. Furniture Co.

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LOS ANGELES, CALIFORNIA**



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EXCHANGE 4567

TALLERDAY SURFACE IRRIGATION PIPE



SAVES WATER, GRADING AND TIME

The only way to Irrigate Alfalfa. Cheaper than Flumes. This is only one of our specialties. We make
Riveted Water Pipe in lengths of ten feet from single sheets. Let us prove to you that we make **Pipe**
and **Tanks** right. WRITE FOR CATALOGUE.

TALLERDAY MANUFACTURING CO.
636-7 Pacific Electric Building Los Angeles, Cal.

ANTIOAK LEATHER

Is manufactured by a chemical tanning process, the exclusive property of this company. **It is Superior to any other** and
is produced as cheaply as any other leather. The method retains all the desirable qualities of the hide and destroys
the undesirable; the result—a perfect leather.

Harness Made of Antioak Leather

quality and **GIVES THE GREATEST VALUE FOR THE MONEY.** The trade must have Antioak Leather.

PACIFIC IMPLEMENT COMPANY, 131 Kansas St., San Francisco, Cal.

Are agents for the **Celebrated Antioak Harness.** For particulars write above or to

ANTIOAK LEATHER COMPANY

Tannery and Factory Alameda and Slauson Ave. LOS ANGELES, CALIFORNIA.



Pacific Coast Business College

San Jose, Cal.

Personal Influence with Pupils.
Rates \$11 per month.
Board \$20 per month.
Graduates in good positions.
Write for our New Catalog C.

H. E. COX, President

Well DRILLING & PROSPECTING MACHINES.
Fastest drillers known. Great money earners!
LOOMIS MACHINE CO., TIFFIN, OHIO.

Your Eastern Trip



May be arranged so that you may travel by way of
New Orleans
and the Sunset Route
San Francisco
and the Ogden Route
Portland
and the Shasta Route

Enjoying the balmy air of the South or the cool and bracing air of the North.
Personally conducted excursions every day from Los Angeles via all routes without change to principal eastern points.

City Ticket Office:
600 S. Spring St., cor. Sixth
Southern Pacific

GOING EAST

IN A
TOURIST SLEEPER
VIA



YOUR CHOICE OF

SEVERAL ROUTES

Union Pacific and Northwestern
To Chicago
Denver & Rio Grande and C. B. & G.
To Chicago
Denver & Rio Grande and Mo. Pacific
To St. Louis
Denver & Rio Grande and C. B. & G.
To St. Louis
D. & R. G., Union Pacific and Northwestern
To St. Paul

Information, booklets and rates furnished with pleasure by all agents of the Salt Lake Railroad

Household Department

EVENING PRAYER.

"The day is ended. Ere I sink to sleep
My heavy spirit seeks repose in 'Thine;
Father, forgive my trespasses, and keep
This little life of mine.

With loving kindness curtain Thou my bed,
And cool in rest my burning pilgrim feet,
Thy pardon be the pillow for my head,
So shall my sleep be sweet.

At peace with all the world, dear Lord, and Thee,
No fears my soul's unwavering faith can shake,
All's well whichever side the grave for me
The morning light may break."

HOW HE GOT HIS NEST EGG.

WHO does not remember some schoolmate who was antagonistic? Morgan Enright was so to me. He was two years older than I, and until we were respectively seventeen and fifteen he tyrannized over me. At fifteen I was fully as tall as he, though not as well developed. At any rate, I gave him a good thrashing, and that ended his annoying me, though his ugliness toward me was increased.

When I began to earn a living I was attracted by the large sums paid to divers and became a diver. The truth is, I was in love, and being anxious to marry, chose that which promised to enable me to secure a nest egg. My sweetheart didn't approve of my occupation at all, but like me, wanted the nest egg. However, I had a mother to take care of, and the nest egg failed to appear. I was pretty well discouraged, when something happened that very nearly rendered it unnecessary.

A ship had gone down close to shore on which there was heavy insurance. A diver was to be sent down representing the underwriters, together with one representing the owners and the captain. I was chosen to represent the underwriters. I was standing on the float in diver's rig, all except the helmet, waiting for the owner's diver, when a boat pulled off from the shore, and when it came near enough who should be in it but Morgan Enright. He was as much astonished to see me as I was to see him. Neither knew that the other was a diver, much less that we were to go down together, but we were boys no longer, and I offered him my hand. He took it, but the look on his face froze the marrow in my bones—a look that I did not fully understand till later.

Well, we struck bottom about the same time on a stretch of white sand. The ship was in a good position for inspection, for her bow had come down on a ledge of rock that lifted it above the sand and only a few feet above our heads. It was no secret that I was there to look for foul play, and the place to find it was on the ship's bottom. I walked along, looking upward, till at last my head was even with the inclining bottom, and after that I was obliged to stoop. Enright accompanied me, also looking. He soon got ahead of me and motioned me to come on, shaking his head as if to say that he had been looking carefully where I was hunting and had found nothing. I looked all the more carefully and at one place, poking my finger in an

indentation, found a hole. I succeeded in pushing my fist through the bottom and into the ship. Enright turned back and saw me stooping, with my arm thrust into the hole. He came up to me and the first thing I knew seized me around the body and gave me a wrench that broke my arm. It occurred to me at once that he had been sent down by the owners to foil an attempt to discover, or at least report, on the scuttling of the vessel. Quick as a flash of lightning all that had passed between me and him from the first blow he had given me before I was old enough to protect myself till the day I had thrashed him came up before me. And now he was to take his revenge fifty feet under water. He was to kill two birds with one stone—have his revenge and prevent my reporting the scuttling of the ship.

Realizing that, handicapped as I was, I would be no match for him in a struggle, I pretended to faint and sank down on the sand. He raised his heel and brought it down the glass over my face, but its thickness, together with the resistance of the water under his foot, saved me. He failed in the attempt. Then he took a knife from his pocket and cut the signal line. He was too late, for I managed to give the signal to be raised. When he saw me rising he cut the rope that was lifting me, and I sank again on the sand. Then seeing that I was cut off from succor he gave the signal to be taken up. As he was rising I saw one chance for my life. Encircling his leg with my sound arm. I clung with the strength of despair. Had he been above water he might have shaken me off. As it was, he was unable to do so. The men above feeling the extra weight pulled hard, and before my enemy could do anything to prevent we were both at the surface.

As soon as I saw that I was saved I fainted. When I came to myself Enright had gone, but, turning my eyes toward the shore, I saw him pulling for the dock with furious strokes. Hurriedly I called on those standing by to stop him, and two of them, entering another boat, reached the dock in time to prevent him from getting away.

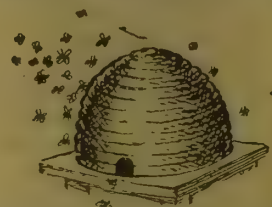
When the underwriters heard my story they resolved to push both the owners, the captain of the ship and especially Enright to the wall. They had no end of money with which to do the job and landed every one connected with the swindle in state prison. The courts couldn't hang Enright, as he deserved, because he had not succeeded in taking my life, but the judge gave him twenty years, and he still has ten of them to serve.

That was my last trip under water. No man could get me to put on a helmet for any money, but it has not been necessary. I had saved the insurance to the underwriters, coming within an ace of losing my life in doing so. They made up a purse for me, each putting in \$2000, and as there were seven of them you can figure that I got my nest egg. Besides, I have been in their employ ever since. I was married that autumn and have lived comfortably on my salary and the interest of my capital, which has been steadily growing.—Harold Otis, in Denver Field and Farm.



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25 lbs. Pure Cane Granulated Sugar	at 2c	50c
25 lbs. Fancy Burbank Potatoes at 1c	25c	
50 lbs. Fancy Roller, best California Flour at 2c	1.00	
6 tins Solid Tomatoes, small size	1.00	
1 jar French Mustard, Jumbo	1.00	
3 large or 6 small cartons of Egg Noodles, Macaroni, Vermicelli	1.00	
1 quart bottle Pure S.C.S. Olive Oil, worth \$1.00; or 2 lbs. Fidelity Pure Baking Powder	50c	
1 dozen fancy Lemons	25c	
3 packages fine Corn Starch	75c	
5-lb. wood caddy new crop Tea, just arrived, better than ever before, packed in the Orient for our best family trade, guaranteed equal to any you pay 75c lb. for otherwise; Japan, Young Hyson, Green, Un-colored, Spider Leg, Oolong or Eng. Breakfast, per lb. only 50c	2.50	
OPTION—You can take 8 lbs. roast 40c Coffee in place of Tea, or 4 lbs. Coffee and 2½ lbs. Tea in bulk.		
Total for all unchanged		\$4.88

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Rice, table clean, good, lb... 5c
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COTTAGE OR "DUTCH" CHEESE.

The manufacture of cottage cheese on the farm can be carried on very extensively and some profit can be derived from it if it is properly made. It is put up into neat packages. The milk does not have to be used, but skim milk can be used in every case. The advantage in using skim milk is that a lot of the butter fat can be saved which would surely escape into the whey. By using skim milk all this fat can be saved and afterwards added to the cheese and improve the quality of the cheese to a great extent. In fact, the present grades of cheese can be improved by simply regulating the amount of cream added. This addition of cream to the cheese entirely changes the flavor of the cheese.

Twenty-four hours before the cheese is to be made, the skim milk should be set in a warm room having a temperature of from 60 to 70 degrees. A starter should be added to this milk to insure a proper degree of acidity. If a starter is not added, undesirable bacteria are apt to get into the milk and thus spoil its flavor to a great extent. Even if the room in which the milk is being soured is perfectly clean, the undesirable bacteria are still liable to get into the milk, for these bacteria exist in the atmosphere and wait for just such a chance to multiply, and they surely will very rapidly after they once get there. An artificial starter may be used, but this is not absolutely necessary.

A good starter is prepared by taking a little buttermilk forty-eight hours before the cheese is to be made, mixing it up thoroughly with a little skim milk; in twenty-four hours this starter will be ready to be put into the skim milk to be turned into cheese. Warm the skim milk to about 65 degrees. Within twenty-four hours this milk should have a mild acid flavor and be thickened. The proportion of starter should be about five per cent of the whole amount of the skim milk used. Good success can also be obtained by using simply pure butter milk as a starter, but the operator will have to watch very carefully to see that the butter milk used is not too sour, for it will make the cheese taste too strong; on the other hand, a mild, sour taste in the cheese is desirable.

When the milk is fully ripened, heat it very slowly to 90 degrees and keep it at that temperature for about an hour, for the curd will take a long time to heat through thoroughly. Stir the milk slowly during the whole time that it is being heated so as to have the whole mass heat evenly. After this has been accomplished drain the cheese with cheese cloth until the whey stops dripping.

Mix enough salt with the cheese to suit your customer's taste if you know what it is; if not, suit your own. Work the cheese a little while mixing the salt until it is a trifle salty; then add as much cream as the price that can be obtained warrants. Some customers will pay a higher price if more cream is added. Put the cheese into small balls and wrap it up in regular butter paper. This will make a nice appearing package which will greatly facilitate the sale of the cheese and improve the price. A much higher price can often be obtained from the use of skim milk by making it into cheese and by feeding it to live stock.

SAUCES FOR PUDDINGS.

Hard Sauce.

One cup powdered sugar; one-half cup butter.

Beat the butter well, then stir in the sugar and beat to a cream, flavor to suit the taste.—Mrs. W. J. B.

Cream Sauce.

One-half cup butter; one cup sugar; one-half cup milk or cream; one teaspoon flavoring.

Cream the butter, add sugar gradually, beating all the time; add milk or cream gradually, then flavoring. Beat until very smooth and creamy. Serve.

Every-Day Sauce.

Two tablespoons butter; one cup sugar; one tablespoon flour; pinch of salt; one scant pint boiling water; three tablespoons cold water.

Beat the sugar and butter to a cream, add the flour and thoroughly mix. Then add the salt and cold water, then the boiling water and let it boil a few minutes; after removing from the fire, flavor with vanilla or almond.—Mrs. A. M. W.

Lemon Sauce.

Three-quarters cup of sugar; one egg; one-half cup butter; one lemon; one teaspoon nutmeg; one-half cup boiling water.

Cream the butter and sugar and beat in the egg whipped light, then add the juice of the lemon and half the rind—grated; also the nutmeg. Beat hard, then add the water, cook in double boiler till it thickens.—Mrs. E. R. S.

Nutmeg Sauce.

Half a coffee cup sugar; butter, size of hickory nut; one tablespoon flour, rounded; few drops vanilla; one-half teaspoon nutmeg, scant.

Mix butter, flour, sugar and nutmeg together. Dissolve with a little cold water, then pour on one pint boiling water. Stir well and cook about 10 minutes. Just before serving add vanilla.—Mrs. G. B. D.

HOMELY HINTS.

Keeping Silver Bright.

Both silver and plated ware should be washed with a sponge and warm soapsuds every time they are used, and wiped dry with a clean, soft towel.

When dried, if the plate is not bright, rub with a chamois or take a little whitening and add to it a few drops of spirits of wine or gin, making the mixture of the consistency of good batter; rub it on the plate, dry with chamois.

A brush should only be used for the embossed work.

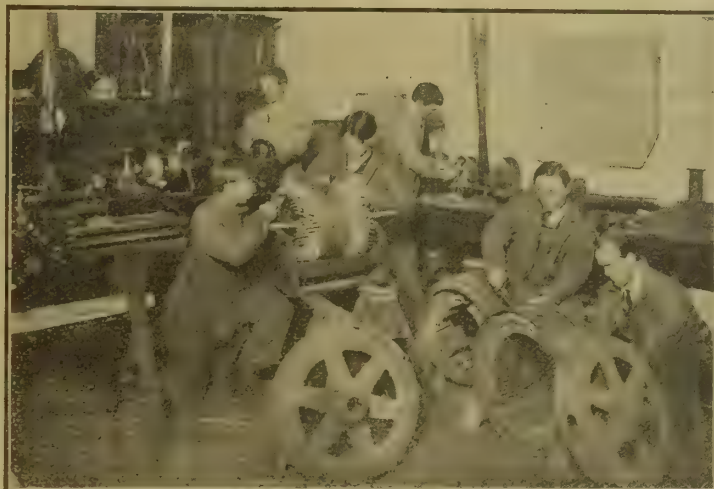
Plated articles should not be left damp for any length of time, as they are liable to injury. After forks and spoons have been used for eating vinegar salads, pickles, eggs, etc., they should be cleaned immediately, and this can be done by rubbing the spoon or fork with salt between the thumb and forefinger.

Plated and silver ware need constant care. Cleaning once a week with whitening or plate powder is, as a rule, as often as is necessary. Another good powder for cleaning silverware is composed of two parts of whiting, one part of white oxide of tin and one part hartshorn. Each article must be reduced to a very fine powder and then well mixed. If the plate is laid away any length of time after use it should be rubbed with a little spirits of ammonia and water, and afterward rinsed in plain water, to destroy the corroding effects of any salt that may be left on the surface.

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500 acres comprising one of the best all around ranches there is in California. The property is improved with a good home, barn, and other outbuildings. The place has a constant flow of 500 inches of water, giving an abundance for all purposes. There is about 150 acres of this tract orange land, and about 100 acres of it suitable for alfalfa. Balance is a very attractive cattle proposition; price \$45 an acre.

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\$2500--20 ACRES INCOME PROPERTY AT West Rialto near San Bernardino; 15 acres Sultanas full bearing; balance peaches, apricots, alfalfa, etc.; new cottage, furniture, horse, cow, heifer, wagon, buggies, implements; on pipe line; water cheap and plentiful. J. F. DUPRE, West Rialto.

FOR SALE--20 ACRES ALFALFA RANCH, near rapidly growing city of Corona. Rich soil. Pumping plant; inexhaustible well. Terms reasonable. Address, W. S. RITCHIE, Corona, Cal.

7½ ACRES ALL IMPROVED, 52 ACRES alfalfa, 22 acres fruit, buildings, pastures, choice land, fine location, near Modesto; must sell immediately. Write, better come. A. K. AABERG, R. F. D. No. 4, Modesto, California.

GRAPE VINES.

WANTED--100,000 PURPLE DAMAS-cus grape vines or cuttings. Advise immediately with price. Imperial Valley Nursery, BOX 31, Imperial, Cal.

WE HAVE 10,000 CORNICHON GRAPE cuttings 18 inches long, strong wood, at \$5 per 1000; orders accompanied by cash booked now. Address H. L. BAUER & SONS, 737 S. Spring st., Los Angeles.

TREES.

WE BOOK ORDERS FOR BLUE AND RED gums to be delivered when wanted; at \$15 per 1000 delivered to R.R. station, Los Angeles, half cash with order, balance when shipped. Address H. L. BAUER & SONS, 737 S. Spring st., Los Angeles.

20,000 SEEDLING AND GRAFTED WAL-nut trees for spring planting from selected seeds and grafts. A fine stock of apricots, peaches and plums. A. R. MARSHALL, nurseryman, Olive, Cal.

EUCALYPTUS TREES--ORDER NOW AND have your choice of any variety at any time, of any size. A. L. HURTT, San Bernardino, Cal.

FOR SALE--LARGE SIZE PALMS, CAM-phor and acacia trees at moving prices. Write for catalogue to H. L. BAUER & SONS, 737 S. Spring st., Los Angeles.

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EGGS FROM MY PRIZE WINNING Barred Rocks; won all special and 13 regular prizes on Barred Rocks at late Los Angeles show. Eggs from best pens, \$2 and \$3 per 15; \$10 per 100. Can furnish any quantity. Also offer extra bargains in breeding stock. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

EGGS FOR HATCHING; PRIZE PEN CO-lumbian Wyandottes, \$3 per setting. F. M. BENDER, Corona, Cal.

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FOR SALE--CHOICE CALIFORNIA BER-ry plants. Send for catalogue to R. J. HUNTER, Oak View Berry Farm, Gridley, California.

WANTED--ONE-YEAR OLD LOGANBER-ry plants. Address, P. O. BOX 2697, Fresno, California.

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GRANULATED MILK--THE PURE FOOD for growth, fertility and egg production; excels all others. HENRY ALBERS CO., 534 S. Main, Los Angeles.

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FREE--"THE POULTRY MANUAL," BY H. E. TILSON, author of "The Poultry Book" and "The Poultryman's Handbook." Send us the names of twelve persons keeping any poultry, and we will send it to you absolutely free and postage prepaid. WEST COAST STOCK FOOD CO., 518 San Fernando St., Los Angeles, Cal.

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WANTED--A NURSEMAN WHO HAS had experience in fruit tree nurseries and understands budding and grafting. A good opening for a young, energetic man who is anxious to advance on his merits. Also a young man who is familiar with ornamental plants and greenhouse works. Address, BOX 4, FERNANDO, CAL.

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INDIAN RUNNER DUCKS--A FEW FINE breeders for sale now laying; extra drakes. Eggs, \$1.00 per 12. Black Langhans, young stock for sale. CLYDE J. MOSS, Corona, Riverside Co., Cal.

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FOR SALE--SECOND-HAND WINDMILLS, tanks, engines, piping, typewriter, bicycles taken in trade. Cheap. Ranchers see us. We save your time and money. DEMMITT COMPANY, 120 North Main Street, (up stairs) Los Angeles, Cal.

FOR SALE--We ALWAYS HAVE SECOND-hand typewriters, bicycles, office furniture; taken in trade. If we haven't it, can find it cheaper than you can. DEMMITT WINDMILL COMPANY, 120 N. Main St., (up stairs) Los Angeles, Cal.

FOR SALE 220-EGG PETALUMA INCUBA-TOR, \$12.50; Gem Clover Cutter, \$5; Humphrey Bone Cutter and extra parts, \$10; two-wheel Iron Agricultural Garden hoe and seeder, \$10. All new apparatus; or make offer for the lot. BOX 120, Lordsburg, Cal.

FOR SALE--GASOLINE ENGINE 35-H. P. with 100-gallon distillate tank and 2500 gallon water tank. NATIONAL WOOD PIPE CO., Los Angeles, Cal.

FOR SALE--40-H. P. FAIRBANKS-MORSE engine in perfect shape. Worth looking up. WAITE, BAILEY CO., Los Angeles.

FOR SALE--CHEAP FOR CASH--3-H. P. vertical pumping engine in good order. 117 BRUNO ST., Los Angeles.

FOR SALE--15 H. P. MODEL GASOLINE engine in good running order at a bargain. N. W. Cor. MAIN AND BRUNO ST., Los Angeles.

FOR SALE--IN A1 CONDITION; 35-H. P. Westcoast distillate engine at a snap. 943 N. MAIN ST. Los Angeles.

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FOR A BLOOMING SALE--ABOUT 200 large roses in fine condition out of five-gallon cans; 50c to 75c if bought now. H. L. BAUER & SONS, 737 S. Spring st., Los Angeles.

FOR QUICK SALE--500 BOX PLANTS, THE finest plant for division hedges or as a shrub; price, small sizes, \$10 per hundred; large sizes, \$15 per hundred, or 25 cents each. Address H. L. BAUER & SONS, 737 S. Spring st., Los Angeles.

GOATS.

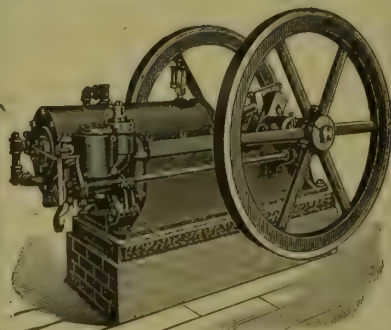
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WHITE PLYMOUTH ROCKS EXCLUSIVE-ly. The largest flock of prize winning birds in the West. At the late Los Angeles show, 1907, we won twenty-three out of a possible twenty-five prizes. We offer extra bargains in our this year's breeders. Will sell to suit purchaser. Eggs \$2.50 per 15; \$10 per 100. A. J. LITTLE, Monrovia, Cal.

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The Produce Markets

Los Angeles

Markets

LOS ANGELES, Nov. 6, 1907.

Butter.

The slump in butter continues its downward course, showing a further decline of 7½ cents during the week. This is over a 12-cent decline in the two weeks past.

There is nothing special on the butter market, as the exchange closed yesterday out of respect for Mr. Allaway, who was murdered in Chicago, Monday. Mr. Allaway was a member of the exchange and head of the large butter firm of Allaway & Layton.

Creamery extra per roll... 67½
Firsts... 65
Dairy... 45
Cooking... 45@47
Eastern... 65

Cheese.

Cal Young America per lb... 19
Hand... 20
California Anchor... 21
Northern fresh... 13
Eastern singles... 19
Imported Swiss... 32
Tulare flats... 18½
Domestic Swiss... 21@22
Oregon... 18

Eggs and Poultry.

Eggs are in practically the same condition as last week. Light receipts makes the market very firm.

Eggs local candled... 42@43
Eggs case count... 39
Fresh Eastern... 36@38
Eastern storage... 24@27

Poultry shows a much better tone and an advance in quotations.

Hens per lb... 14@15
Young roosters per lb... 15
Fryers... 16@17
Broilers per lb... 17
Old Roosters... 8
Turkeys... 17½
Geese... 12
Ducks... 12@14½
Squabs... 1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 lbs... 7½
Prime steers... 4½@4¾
Heifers... 4
Calves per lb... 4½@5
Sheep ewes per head... 4.75
Lambs per head... 3.75@4.25
Wethers... 5.50

Potatoes.

Potatoes show no material change and the market still has a weak tone though slightly higher quotations prevail than last week.

Highlands... 1.80@2.00
Early Rose... 1.75@2.00
Salinas... 2.00
Sweet potatoes per lb... 1¼@2

Onions.

Onions are still stronger and quotations are materially higher than last week. Promise is for still stronger market. The shortage is proving more serious than anticipated.

Yellow Danvers... 2.50@2.75
Australian Browns... 2.50@2.75
Garlic... 2.50@2.8

Vegetables.

Beets per doz... 35@40
Bell peppers green lb... 2
Beans Limas per lb... 2
Beans green... 1
Cabbage sack... 40@60
Celery per doz... 25@30
Chili peppers green lb... 2
Cucumbers per box... 30@40
Pickling... 50
Corn per box... 25@35
Cauliflower... 50@60
Carrots per doz... 30@40
Eggplant per lb... 2
Green onions doz bunches... 10@30
Lettuce per crate... 40@75
Pie Pumpkins... 1½
Peas sugar per lb... 5@6
Okra per lb... 1.35@1.50
Rhubarb per box... 15@20
Radishes per doz... 10@15
Spinach per doz... 10@15
Summer squash crate... 15@25
Turnips doz bunches... 40
Tomatoes per box... 20@35
Water Cress per hundred... 35

Citrus Fruits.

Valencias... 3.00@5.00
Grapefruit seedless... 3.25
Grapefruit seedlings... 1.75@2.00
Lemons fancy... 3.75@4.50
Lemons choice... 2.00@2.50

Fresh Fruits.

Bellefleurs... 1.50@2.00
Baldwins... 1.75
Pippins 4-tier... 1.50
Gravensteins... 1.50
Alexandria... 1.00@1.50
Cooking... 50@1.00

Cantaloupes crates... 1.50@2.00
Casaba per crate... 1.50@1.75
Figs black per lb... 5@7
Figs white... 5@7
Guavas... 4@6
Grapes Isabelas per box... 1.25
Rose Peru... 1.10
Malaga per lb... 1.70
Muscats... 1.25@1.75
Tokay... 1.50@2.25
Cornichons... 1.25@1.50
Pears... 1.15
Winter Nellis per lb... 1.50
Peaches per box... 1.50@2.00
Pomegranates per box... 1.10@1.25
Perismons... 5@6
Quinces... 1.25
Raspberries... 15@18
Strawberries... 10
Watermelons per hundred... 60

Dried Fruits.

Apricots... 22@25
Evap. apples fy per lb... 8½@9
Figs loose... 8
Peaches... 12@14
Pears... 12½@13
Nectarines... 13@14
Prunes... 3½@5½
Plums... 11½@13

Beans, Dried

Limas per ctl... 550@6.00
Pink No 1... 3.75@3.8
Lady Washington... 3.7
Small White... 3.90@4.0
Black eyes... 4.50@4.7
Garvanzas... 5.25@5.75
Lentils... 12@12½

Honey

Extracted white... 6@7½
Light Amber... 5@6
Comb water white 1-lb. fms... 12@14
Light Amber... 11@13

Nuts.

Almonds per lb... 18@20
Peanuts Virginia... 8½@9
Peanuts California... 6@7½
Walnuts No. 1 S S... 15@17

Hay.

Barley No 1... 14.00@17.00
Barley No 2... 12.00@13.00
Alfalfa northern per ton... 15.00@17.00
Alfalfa new local... 14.00@15.00
Plain Oat No 1 new... 16.00@18.00
Wheat No 1... 18.00
Wheat No 2... 14.00

Grain.

Wholesale selling price f. o. b., Los Angeles.
Wheat new per ctl... 1.8
Wheat in 100-lb. sacks... 1.9
Barley... 1.5
Corn Eastern sacked... 1.8
White oats... 1.9

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:
Cracked corn... 1.8
Shorts... 1.5
Bran... 1.4
Oil cake meal... 2.5
Feed meal... 1.9
Rolled barley... 1.7

PLANT EUCALYPTUS.

The tree planting--forest tree planting--fever has struck California. Careful observers have for years watched with concern the destruction of our forests and this concern has finally begun to affect the mass of land owners and possibilities of great profit is causing extensive plantings.

"Where can I get the trees?" is being asked on all sides, and it is with pleasure that we refer to one of the oldest eucalyptus growers on the Coast. It is W. A. T. Stratton of Petaluma. He has a nursery experience of over 40 years; can grow fine trees and will send a booklet on when and how to plant.

He has a couple of hundred thousand trees on hand.

SHORTHORN CATTLE SALE.

Next week will be Shorthorn week. Two big sales are announced.

On Wednesday, November 13, the Howard estate offers a large bunch of exceedingly fine stock at the ranch of Newman. This is the second annual sale and is to be a regular feature of this large ranch. Fifty cows and heifers and 25 yearling bulls are to be sold.

At the close of the sale a special train will run to Woodland where the second annual sale of the Roselaw and Enterprise herds will be held. Mrs. W. B. Gibson's place. Both the Gibson stock and that of Mr. H. P. Eakle is fine stock.

These great sales should attract stock lovers from all over the State.

CONGO ROOFING

Congo Roofing is a strictly high-grade ready roofing. Experience and tests show that neither weather nor climate has any effect whatever upon it, and consequently Congo Roofs last almost indefinitely.

It is easy to lay. No special tools or skill required.

Congo can be used on any kind of roof. If your old roof needs attention, put Congo right on over the old roof and make it serviceable for many more years.

To further substantiate our claims for Congo, we will be glad to send *Sample Free* upon request.

Buchanan Foster Co.
519 West End Trust Bldg., Philadelphia.
Chicago and San Francisco.

GOOD ENOUGH SULKY PLOW

80,000 sold last year. Known wherever used as the "Best Plow on Earth for the money." A high grade tool at moderate cost. The quality of its work cannot be excelled by any plow at any price.

MOLINE PLOW CO., Moline, Ill.

Send 4 cents in stamps for Flying Dutchman Song Book

TENT

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"BEST IN THE WEST"

WE WANT YOU TO DROP US A CARD, IF YOU ARE INTERESTED IN TENTS AND CAMPING GOODS, AND PERMIT US TO SEND YOU OUR HANDSOME NEW CATALOGUE.

The Wm. H. Hoegge Company, Inc.
138-140-142 So. Main St.
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MAGABEE GOPHER TRAP



Small, simple, sure. At all dealers. If your dealer does not handle same, send 20 cents in stamps and mention your dealer's name and get sample by mail postage paid at special rates. Manufactured by

Z. A. MACABEE, LOS GATOS, CAL.

Plant Pecans

Strong one-year seedlings from prolific California strain large soft-shell pecans; \$5.00 per 100, \$40.00 per 1000, by express prepaid. Liberal discount to the trade.

Pedigreed Fruit Trees
Fine Assortment Ornamentals
Eucalypts and Other Timber Trees
Ellwood Walnuts

32 years' experience in California. Catalogue and Price List free. Also pamphlet on "Useful Trees"

Leonard Cones Nursery Co. Inc.
Morganhill Santa Clara Co. California

Ballour, Guthrie & Co.

IMPORTERS OF

THOMAS PHOSPHATE POWDER

AND

NITRATE OF SODA

SAN FRANCISCO FRESNO LOS ANGELES

WRITE FOR PAMPHLET AND PRICES

San Francisco Markets

SAN FRANCISCO, Nov. 5, 1907.

Butter.

Butter has recovered slightly and a half a cent a pound raise is noted. Receipts are, however, fairly heavy.

California extras per lb.	31½
California firsts.	27
California seconds.	26
Eastern extras.	27½
Storage Cal ex	30

Cheese.

California young America fy.	17
California flats fy.	16
Eastern fy.	18½
Oregon fancy.	16½

Eggs and Poultry.

Eggs are slightly lower and with heavier receipts; a rather weak tone prevails.

Fresh Ranch eggs.	46½
Eggs firsts per doz.	43½
Eggs seconds per doz.	27
Eggs thirds.	23
Storage Cal extra.	29
Eastern selected.	24
Eastern firsts.	22

Eastern turkeys are arriving in quantity and are quoted at 21 and 22. No other Eastern stock has come this week. Improvement in the market is expected.

Hens per doz.	4.50@6.00
Hens extra.	6.00@7.00
Young roosters	5.50@6.50
Old roosters.	4.00@4.50
Fryers per doz.	4.50@5.00
Broilers per doz.	4.00@4.50
Geese per pair.	1.50@2.00
Ducks young.	4.00@4.50
Turkeys per lb.	13@21
Pigeons.	1.00@1.25

Live Stock.

Steers No. 1.	8@8½
Do second quality.	7@7½
No. 1 cows and heifers.	6½@7
Hogs 80 to 200 lbs.	7½
Hogs 200 to 300 lbs.	7¼
Calves per lb.	4½@5
Lambs spring	6@6½
Wethers No 1.	5@5½
Ewes No 1.	4½@5

Potatoes

The potato market is practically as last week with little promise of change. Sweets show slight increase in quotations.

River whites.	1.00@1.35
Oregon Burbanks.	1.20@1.40
Salinas.	1.40@1.75
Sweets.	1.50@1.75

Vegetables.

Cucumbers per box.	1.00
Corn per sack.	1.50@1.75
Chili peppers per box	.50
Bell peppers per box	.60@.75
Egg plant per box.	.50@.75
Green peas per lb.	.5@.6
Squash per box.	1.25@1.50
Marrowfat squash per ton.	10.00@15.00
Hubbard squash per ton.	10.00@16.00
Tomatoes California.	.75@.90
String beans.	2@3½
Wax beans.	3½
Garlic.	4@6

Onions.

Onions have taken a great advance during week and market is very firm.

Onions Br Australian per ctl.	3.25
Yellow.	2.15@2.40

Citrus Fruits.

Valencias.	3.00@4.50
Grapefruit seedless.	2.50@4.50
Lemons.	4.00@4.50
Limes.	6.00@8.00

Fresh Fruits.

The fresh fruit market is very strong and nearly all offerings are quickly absorbed.

Apples Gravenstein.	1.25@1.50
Apples small stock.	.40@.75
Crab apples.	.85@1.00
Figs one layer.	.50@1.00
Grapes per crate.	.75@1.50
Huckleberries.	.6@.9
Melons per small crate.	.65@.90
Pears winter Nellis.	1.70@2.00
Pears cooking.	.60@1.25
Persimmons.	1.00@1.25
Pomegranates per box.	1.00@2.50
Quinces per box.	1.00@1.50
Raspberries per chest.	7.50@11.00
Strawberries per chest	10.00@13.00
Watermelons per doz.	1.75@2.50

Dried Fruits.

Apples (evap.)	10@10½
Apricots per lb new.	18@24
Figs white.	3½@5
Nectarines.	12½@15
Plums pitted.	12@15
Prunes 4 sizes.	4@5½
Peaches.	10@13
Pears.	7@13
Prunes 4 size bag basis	4½@5

Beans, Dried.

Limas.	5.15@5.30
Pink.	3.25@3.35
Small white.	3.50@3.60
Large white.	3.00@3.10
Lady Washington.	3.40@3.50

Black eyes.

Black eyes.	4.00@4.25
Red kidneys.	3.40@3.50
Bayo.	3.15@3.25

Hops.

Hops new future delivery per lb	7½@10
Hops old fancy.	4@6

Nuts.

Almonds new.	16½@17½
Peanuts California.	6½@7½
Walnuts	14@17

Honey

Clear white comb.	16@17
Amber	12@15
Extracted.	7½
Beeswax No 1 per lb	26@28

Hay.

Alfalfa local.	12.00@13.50
Tame oat choice.	18.00@19.50
Wild oat.	10.00@14.00
Wheat No 1 new	21.00@23.00

Grain.

Wheat No 1.	1.67@1.70
Barley No 1.	1.60@1.62½
Corn small yellow.	1.65@1.70
Corn large yellow.	1.65@1.70
Oats white.	1.60@1.65
Oats red.	1.75@1.90

Feed Stuff.

Bran per ton.	25.00@26.00
Straw per bale.	75@85
Feed cornmeal per ton.	37.00@37.50
Cracked corn per ton.	38.00@38.50
Roller barley per ton.	35.00@36.00
Oil cake meal per ton.	38.50@40.00
Cocoanut cake, per ton	25.00@26.00
Middlings.	30.00@32.50

Citrus Market

LOS ANGELES, Oct. 5, 1907.

The new citrus year opens with fairly liberal shipments. Under present financial conditions none can predict with certainty, but the outlook for good citrus prices is favorable. The fruit is fine.

The fruit so far shipped is entirely from the North and Central California. About 20 cars have already been forwarded.

Lemons are not strong in tone, though fair prices are yet received.

Shipments.

The shipments from Southern California for the year ending Nov. 1st, aggregated 23,986 cars of oranges and 3507 cars of lemons. To this should be added about 2000 cars from the Tulare county sections.

A MAGNIFICENT STORE.

In an article on "Los Angeles as a Jewel Center," The Travel Magazine, of New York, says:

"A few years ago the jewelers of Paris were supreme in their line of handicraft. It was in that city that what is known as the "modern style" in jewelry—a kind of back-to-nature idea—had its inception. But Los Angeles enterprise and imported skill, copying first from the French and afterwards originating along new lines, is achieving for itself a place of recognized importance.

Some of the rarest precious and semi-precious stones of the world are found within a radius of two hundred miles of Los Angeles, and this city has some of the largest and best lapidary establishments to be found anywhere. In them are engaged as designers men of the highest artistic achievement. Los Angeles already invites comparison with the cities of Europe."

Of these fine shops the finest—the wonder of all, is the one of Messrs. Brock & Feagans, which is to be opened next Monday and Tuesday, Nov. 11 and 12.

Every visitor to Los Angeles should make make a visit to the store. It's a wonder.

In these days when progressive farmers are hurrying to provide themselves with labor saving powers, the line offered by the International Harvester Company, of America, should not be overlooked. Buying one of these engines is buying dependability, and that is the first consideration. And you have the highest assurance that every other gasoline engine requisite is included. There are quite a number of styles and sizes, so that every possible requirement is met. You know to begin with that if anything should not be right it will be made all right. Read the International advertisement elsewhere if farm power interests you.

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

Thoroughbred Poland China Swine
Black Minorca and Barred Rock Poultry

High Grade Stock of Best Strains.
Young Stock For Sale

M. Bassett

Hanford, Cal.

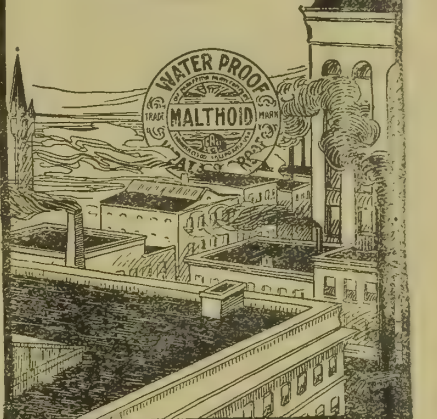
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Malthoid Roofing is not a roofing like many others — made simply to sell regardless of quality. We are not advertising cheapness—you want a roofing that will last. Every roll is guaranteed.

Write us today for special booklet.

The Paraffine Paint Co.

San Francisco



Los Angeles Office, 314 No. Los Angeles Street

AUCTION

85 HEAD FINE STOCK
FRIDAY, NOV. 15
10 O'CLOCK A. M.

On Willow Land Co's Ranch, two and one-half miles southeast of HUNTINGTON BEACH

Four miles south of Talbert. Take Newport Electric Car leaving Los Angeles at 8 a. m. to Santiago Station. Teams in waiting.

53 Head of Milk Cows
Jerseys, Holsteins and Durhams. All first class dairy cows, large milkers, young and in good condition, fresh and coming fresh.

4 Head two-year-old Helpers
1 Young Durham Bull, 1 young Jersey Bull.

6 Head Work Mules all young; two well matched spans.

1 bay mare, weight 1900 lbs., 8 years old, fine brood or work mare. 2 driving horses, weight 1000 lbs. each, 8 years old 1 19-months-old colt, weight 1000 lbs. 1 3-year-old colt, weight 1000 lbs. 1 6-months-old colt, weight 1100 lbs.

3 Fine Brood Sows, 1 Fine Young Boar, 11 Fine Pigs, 25 dozen Chickens.

4-Room Dwelling in good condition, 1 Barn for eight Horses, 1 Milk House.

IMPLEMENTS

Lot Bridge Lumber, one 3 1-2 Wagon, one 3 3-4 Wagon, one Milk Wagon, 2 Disc Plows, 2 Harrows, Cream Separator, Cans, Troughs, 5th Chains, Lead Bars, Tools, 7 sets Work Harness, 2 set Single Harness, 32 ft. Irrigation Pipe, McCormick Mower, Rake, etc.

TERMS: \$50 cash; over \$50, credit of six months with note and approved security. Three per cent discount for cash.

Owner leaving the country and closing out his entire outfit, and everything will positively be sold without limit or reserve.

FREE LUNCH AT NOON.

A. Sella, Owner.
RHOADES & RHOADES, Aucrs.
Los Angeles.

AUCTION

80 FINE MILK COWS
TUESDAY, NOV. 12
10 A. M.

On Cout's Bros. Ranch, 2 miles North of ARTESIA

Two miles South of Norwalk. Take Santa Ana Electric Cars leaving Los Angeles at 8 a. m. to Artesia. Teams in waiting.

30 head Fine Dairy Cows, Large Holsteins, Durhams and Jerseys, fresh and coming fresh, young and in good condition, large milkers. This is one of choice herds of Los Angeles Co., and purchasers looking for first class stock should not miss this sale.

We are quitting the dairy business and closing out our entire herd and every animal will be sold to the highest bidder without limit or reserve. TERMS CASH

LUNCH AT NOON.

COUTS BROS., Owners.
RHOADES & RHOADES, Aucrs.
Office 830-832 S. Main St., Los Angeles.



Does this stream of water look good to you?
 It certainly does to the two men standing beside it. They are the President and Treasurer of the company to whom the plant belongs. It is raising 40 inches of water from 250 feet below where they are standing. This water goes into a reservoir 18 feet above the pump through an 8-inch pipe-line about one-eighth mile long and you cannot see a pulsation in the discharge if you try. It has been doing this for over a year. There have been no repairs, not even new leathers, and it runs better, if such were possible, today than it did a year ago.
 How many pump users can say this?
 It shows conclusively that it pays to install good machinery.
 We have done this for these people and we can do it for you if you give us a chance. Our catalog tells all about it.
 Mail us a card asking for it today.

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 Corner of Bertie and Gibbs Streets **POMONA, CAL**



The Callahan Oil Engines

The Highest Grade Made. Won First Prizes at Sacramento and Porterville Fairs. Large Stock always on hand. Send for Pump and Engine Catalogues.

G. W. Price Pump Co.
 21-31 Jessie St., San Francisco

BRANCHES — Sacramento, Visalia, Porterville

STEARNS GASOLINE OR DISTILLATE ENGINE

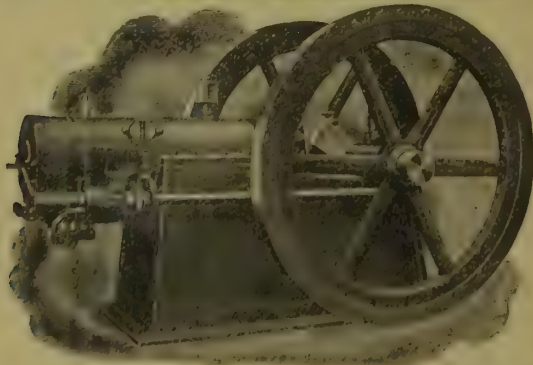
Has many points superior to any other engine.

**Hundreds In Use
 Every One Satisfactory**

Built for California cheap fuel.
 For further information, write

STEARNS GAS ENGINE WORKS

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Columbus Engines

Have Stood the Test
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500,000 FEET OF WATER PIPE

All sizes, Galvanized and Black, slightly damaged.
 Special Price While It Lasts. Phone or write.

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**GUARANTEED CAPACITY
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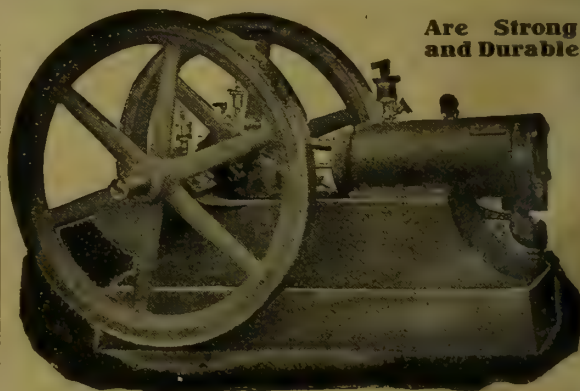
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Are Strong and Durable Fully Guaranteed in every Particular. We make complete Irrigation Outfits.

Samson Centrifugal Pumps
 Are the Best.

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Send for our new catalog and estimates.

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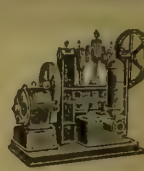
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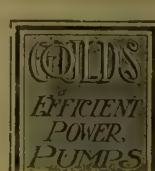
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STOVER GASOLINE ENGINES

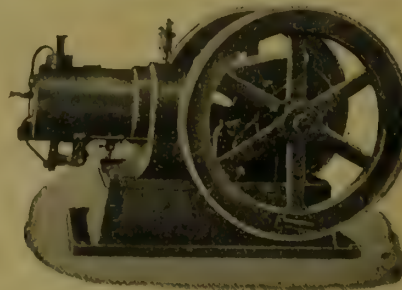
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Gould's Pumps for Every Service and Use.
 Gasoline Engines, Wind Mills, Tanks, Pipe, Pipe Fittings, etc
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For all purposes, Stationary, Portable and S. ing. All sizes from 2 to 100 H. P. Simple, able, warranted, are giving fine satisfaction to purchasers on the Coast. Prices and circ. mailed on application to

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WINDELER'S PLANING MILL AND COOPERAGE

GEO. WINDELER, Prop.

Water Tanks, Wine Tanks made from carefully selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.

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Water Tank

National Wood Pipe Company

Woodward Pat. Machine Banded Pipe, Wheeler Pat. Continuous Stave Pipe, Bored Wood Water Pipe

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A Booklet, "The Whole Story About Wood Pipe," mailed free upon request.

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LIVE STOCK OF CALIFORNIA

California Cultivator

Los Angeles

November 14, 1907

San Francisco

California Bred Prize Winners

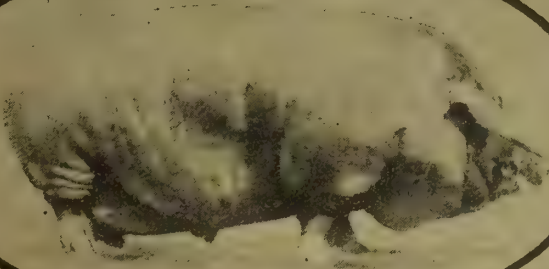
California is Producing Today Some of the Finest Stock in the World. The Trouble is She Does Not Produce Enough. With the Millions Which Are Annually Sent East for Meat Products Kept at Home Our Prosperity Will Be Still Greater. Let Us Raise More Live Stock.



DUTCH BELTED
COW



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BOAR



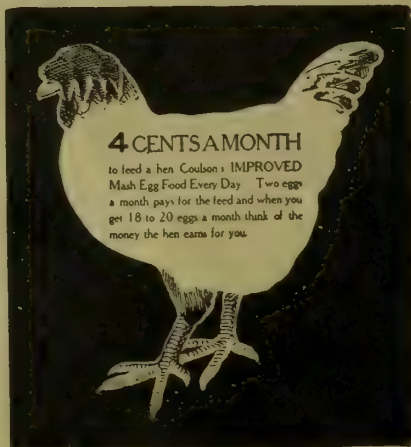
A BERKSHIRE GILT.



A SHORTHORN YEARLING

Coulson's Improved Mash Egg Food

Takes
Less
Feed



Makes
More
Eggs

IF YOU WANT PLENTY OF EGGS THIS FALL AND WINTER when prices are high, you must lay your plans now. The hens must be given a strong feed which will enable them to get through the molt without loss of condition, and they will then quickly commence laying again.

First, see that your hens are healthy when they start to molt. At this time of the year, after a heavy laying season, they are apt not to be at their best, and a little of COULSON'S NO. 3 CONDITION POWDER will put new life into them, and enable them to thoroughly digest and use the good food which they specially need.

At the same time they must have the best food you can give them from the commencement of the molt. You will find COULSON'S IMPROVED MASH EGG FOOD is just what is required. It is strong in protein, due to the blood, meat, bone and oil cake meals which it contains.

Put Up in 90-Pound Sacks Directions in Each Sack

Your hens will not need to eat so much of the concentrated food to obtain the egg-making and feather-producing materials they need, thus saving their digestive organs and your pocket at the same time.

COULSON'S IMPROVED MASH EGG FOOD is therefore beneficial in two ways. Less feed is required and the hen gets just what she needs, with the result of a quicker molt and more eggs.

First cost is not everything, but even in this respect COULSON'S IMPROVED MASH EGG FOOD shows to advantage. A 90-lb. sack will make a meal for 1250 hens. This is just over 2 lbs. a hen a month. Think how many eggs does it take to pay for this feed? In November, only 1 egg, and not more than 2 on the average.

We know what this feed will do by results on our own poultry ranch, as well as from testimonials from pleased customers all over California. What it does for others, it will do for you.

Give a trial order to your dealer; if he does not keep it, write to us, and we will either advise you where you can get it locally, or supply you direct.

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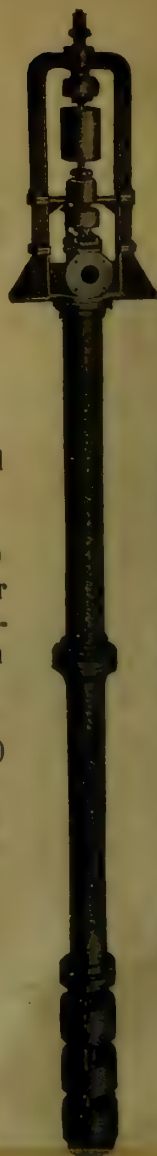
Coulson Poultry and Stock Food Company

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Guaranteed to Deliver from 100 to 2000 Gallons per minute (depending on the diameter of the bored well) to a depth of from 50 to 300 feet below the surface

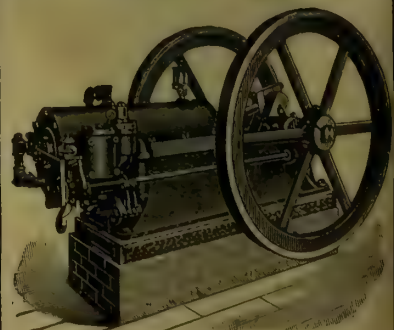
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The Cost

Of pumping water for **Irrigation** can be greatly reduced by selecting the **Right** power and pump.

We have acquired valuable information in installing thousands of

Pumping Plants

and believe we know how. **Why not** ask our advice before purchasing? It will **cost nothing** and will **save you money**.

The Cost of a Pumping Plant is **not** so important as the cost of pumping the water after you have the plant.

We have no "hobby." We sell all kinds of Pumps and Powers. It is a pleasure to sell you an economical plant. Come in and talk it over.

HAND AND POWER SPRAYERS
LAMBERT GASOLINE ENGINES
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STEAM BOILERS DEEP WELL PUMPS
PUMPS FOR EVERY SERVICE
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S. J. Smith Machinery Co.

212-214 So. Los Angeles St.
Los Angeles, Cal.

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Sunset Main 1000.

California Cultivator

Vol. XXIX—No. 20 Los Angeles, California, Thursday, November 14, 1907 Subscription \$1 a Year

California's Live Stock Possibilities

Mrs. Sherman Writes of the Various Lines of Live Stock and the Advantages for That Industry on This Coast

THERE is nothing small in California. Speak of river, hill, valley or mountain and always come back the loyal reply: "Largest and finest in the world." The stock raising interests are not exceptions to this rule. In the days of range feeding, one firm could easily drive their cattle from Arizona to San Francisco and feed every night on their own lands. The ranch feeding of cattle has proven more profitable than the range way of rustling for a living on the low bushes between "grass and grass." The range appeals to the love of the picturesque. The cowboys were better men than the Eastern writers of fiction depict, as they dwell on only the vicious ones that delighted in "painting the town red."

But cowboy days are going as to the greater part of the State. The smaller ranch and the thoroughbred are coming. We are not on the Eastern "general farm" basis, for California is a State where specializing is popular. So the stock industry has every prospect of accomplishing still greater things than ever in the past.

With this State's vast importations of live stock, and still more of meat products, there is the greatest urgency that this industry receive the utmost encouragement that this drain upon our resources may be stopped and these millions be kept at home.

Cattle Ranching.

The plains have herds of Hereford and Short-horn grades on the salt grass and alfalfa pastures. The alfalfa is cured into hay and fed during the rainy season to the herded cattle. Some of the thousands or more acres of wheat farms are now converted into cattle ranches and grow enough grain for winter feeding. The stock run on the wild grasses and alfalfa during the summer. In the off season they are fed on chopped alfalfa and barley hay. While on Coast ranges the cattle find the seasons of growing grass lengthened by the sea fogs, yet the cattle are gathered in and fattened in large numbers on the sugar beet waste. The range cattle are increasing rapidly in the interior, now that portions of the forest reserves are open for summer grazing. The foothills furnish winter feeding and the higher mountain meadows for the summer. The small cattle men's holdings herded by the picturesque nomads are now to be found on the mountain roads of the high Sierras.

Capital.

The beef cattle industry requires capital for the business is profitable when cattle are handled by the car or trainload lots. A man with a small bunch of steers has little chance to sell them, except at reduced rates. Often these smaller men combine and open for a time a small butcher shop dressing their own steers. They are often forced out of this business by the cut rates.

Some of the men that own the great cattle ranches are wonderful in their attention to detail. I know of one that now in his old age can

count out a bunch of steers quicker than any of his employees; tell how many of them will make feeders at once and about what they weigh, all the while the cattle are being rushed by on a run.

Dairy Cow.

The dairy cow is the poor man's dependence. Add the pig and a good living is assured on less capital than any other investment in California at the present time. Dairying also, offers to women of small means an independence.

The large dairyman is troubled over the poor-ness of his milkers. The pure bred cows of the large herds are often so poorly milked that they pay little more returns than the common grade cows, but the owner that milks his own cows is now realizing from \$6.00 to \$10.00 per head a month for butter fat. The hopes of the large dairymen centers around the improving of the milking machines.

A large part of Southern California output is absorbed by Los Angeles milk and cream trade. Even the dairies of the San Joaquin valley are called upon for a part of the cream besides much butter. Even then tons of butter are weekly shipped in from the East.

San Francisco finds the dairies of the great valley and of the north coast counties insufficient, and it, too, calls upon the East for more.

Why doesn't California keep all this outlay for butter at home?

Well, why?

Swine.

With the dairy naturally goes the "mortgage lifter." California's all the year growth of alfalfa makes it the ideal condition for growing of pigs. Grain for fattening is higher priced than the Middle West farmer has to pay, but other conditions are still favorable and the hog raiser has made money.

Berkshires and Poland-Chinas are the favorites, yet Duroc-Jerseys, Chesters and Tamworths are in evidence. Razor backs or "just hog" stock are conspicuous by their absence.

The future has great promise. Let California farmers accept the promise.

Horses.

California is famous for its stables of racing horses—as famous as Kentucky—only we have so many other things equally famous that we do not find time to tell people that we have "the best horses in the world." The small farmers have bred many standard horses in hopes of a winner. The amount of money spent on trying in the race track to go faster has not been to the betterment of the human family, nor to the betterment of the horse, as a practical animal. The racing blood sacrifices everything to speed. The horses are often light limbed, ewe necked, cat-hamned and flat-ribbed; beauty and form sacrificed to the ability to "go." There is little money in these horses for the small man. Even the great stables at Palo Alto were not a financial success.

Carriage Horses.

In California a high type of carriage horse is rare, only a few are to be seen in the larger cities. The same is true of all the United States. The government has now a horse farm in Colorado and is breeding towards making an American carriage horse. One of beauty, stamina, level-headedness and some speed. This movement has not come too soon for after twenty years of trying to breed from the trotting mares by the French and German Coaches stallions has been found not to give a high class of colts. The English Hackney was soon discarded as he was not quick or intelligent enough.

At Present.

The carriage horses of today are happy accidents, culled out of a mass of misfits. The large standard bred horse, particularly the blood of old Electioneer, gave size and style. A carriage horse must weigh not less than 1200; not be under 16 hands in height. Good looking and well broken to autos and electric cars a span of these horses finds ready sale at \$500 to 1000 dollars a pair at the ranches. Afterwards they are often resold by the jockeys for an advance of twenty-five to fifty per cent.

Draft Horses.

I believe that draft horse grades are the most profitable for general raising; they are hardy and require little care to raise, and no fixing up for the market. The prices at present are away up, but I have never in twenty years failed to find a ready sale for all I have raised. Span of



horses that weigh 1600 and over apiece, sell readily for 500 dollars or more a span, while the nineteen hundred-pound horses will readily bring twice that price. The grade drafter that falls under these weights finds ready sale as fire engine or heavy express horses.

Sheep.

The profits of sheep raising are again large, but the old days of free pasture has passed forever. Sheep on a water shed are the horrors of every forestry and irrigation student. The great flocks are gone that used to feed in the vineyards every fall. The fields of the rough foothill ranches that in former years were used for cattle are now turned into sheep pastures. The tendency to raise too many sheep on a limited range brought great suffering when a series of dry seasons came, the flocks died off like flies. The number of ordinary sheep will decrease, but the fine wools and even thorough-

Concluded on Page 481

CONGO ROOFING



Congo is everything a good roofing should be. It is air-proof, climate-proof, water-proof, storm-proof, snow-proof, wind-proof, and proof against everything else which can damage a roofing.

If you are having trouble with your present roof, cover it with Congo and your troubles will be over.

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Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Walnut Planting.

Kindly advise through the columns of the "Cultivator," as to the proper distance for planting French walnuts grafted or budded on the California black.—J. A. K.

Walnut trees should not be planted closer than 50 feet apart in an orchard where the soil is good, though it will pay to set 60 feet apart with a walnut tree in the center which can be taken out when the trees begin to crowd. This is not likely to happen until the orchard is 15 years old and by that time the interset trees will have done a great deal towards paying for the orchard.

The French varieties are shy bearers in the southern part of the State, and if there are no trees of this variety that are in bearing and doing well near you, we would hesitate about planting many.

If you take buds, or scions, from the best bearing and most blight-resistant trees to be found in your vicinity and bud or graft into the desired stock, you will have a better orchard than to take varieties that are not tested. There are always a few trees in an orchard of seedlings that are better than any of the other trees, and by propagating from these you will have an orchard that will have every tree equal to these. If you do not already know of these trees go through the orchard at once and mark them so they will be known.

Glanders.

I have a sick two-year-old mule. She took sick six weeks ago with a very lame left hind leg. Two weeks after the lameness set in she commenced running at the nose and has been running at the nose since. She has become very poor. Her legs swell and she breathers hard. Is it distemper or something worse and what is the cure?—O.

Your horse has glanders; have him destroyed as soon as possible.—Dr. Oliver.

Asparagus, Celery, Cabbage Culture.

Will you kindly give me what information you can regarding the culture of asparagus, celery and cabbage. I have asparagus plants about eight inches high come up from seed planted in the spring. Should I transplant while they are growing or wait until later in the year? I planted some two years ago and where roots were one year old transplanted in ditches a foot deep, but they were not a success. I worked the soil fine and put considerable fertilizer on same.

When should cabbages be planted to be ripe in midwinter? I have large plants now. About when would they mature if transplanted soon?

How shall I transplant celery; have considerable in thick rows now about a foot high; will it be saleable if left in this state? Kindly give me what information you can and oblige a California Cultivator subscriber.—B. A. M.

Transplant the seedling asparagus in January or February. Set them out in rows three feet apart and two feet apart in the row. The ground should be very rich by plowing in large quantities of stable manure. One hundred tons per acre would be none too much. Six inches below the surface is plenty deep for the crowns, and they should be covered

only about two inches until after they have started into vigorous growth, when the soil can be gradually covered over the crowns.

Cabbage requires four to five months to mature, depending upon the variety and the skill with which it is grown. Ground should be very rich for good cabbage. One of the secrets of success in growing good cabbage is to see that it receives no check in its growth after it is once set out. This check often comes through lack of irrigation at the proper time or neglect in cultivation. Be sure that you have good seed.

There are several ways of transplanting celery. The most common one is to transplant into rows that are three or four feet apart and set the plants about six inches apart in the rows. I fear plants eight inches high will be difficult to transplant, especially if they have been grown closely together. I used to grow many thousand plants annually for the market and always practiced transplanting the little seedlings into a bed of very rich soil, setting the plants about two inches apart in rows four inches apart and transplanting from this bed into the open field. While this method seemed to involve a good deal of labor I found it profitable, for it gave me extra fine stock, well rooted plants, that were sure to grow, and it enabled me to throw out all weak and unprofitable plants so that almost 100 of those put into the open field could be relied upon to make a saleable stock. I have practiced another method of growing celery in a smaller way that was very satisfactory. Set the plants out in very rich soil seven inches apart each way, and fix your soil so that you can flood it with water at will. Planted in this way the plants will assume an upright growth and will blanch perfectly because the light is excluded by the dense growth. The outside row will have to be protected by setting up a wide board 12 or 14 inches wide entirely around the bed.—Q. A. Lobingier.

Pruning the Dewberry.

Will you kindly inform me which is the best way of pruning the dewberry vine? A year ago I read in the Cultivator about letting all the new growth alone during summer and also another recommending keeping the new growth off. One correspondent was from Austin, Texas; the other was from Southern California. I followed the Texas idea, but found the new growth was in the way of picking berries, and the thought came to me, if it is not a better plan to put the strength of the vine in growing berries instead of so much foliage. Some of my vines are eight feet across. I noticed some of my vines the leaves shriveled up, kept green, but were curled up to about one-third of their natural size. Hoping to hear from some of your correspondents who are growing dewberries which way they think best to prune their vines. Also how to treat the vines which seem affected with some blight.—I. M.

For the Gardena, or Lucretia varieties, the plan of cutting off all the new growth before the crop gathered, is not the best one. A plants require abundant and health

foliage to mature fruit. I cut out only enough of the new growth to enable the pickers to get at the fruit. It is also too late now to cut off all growth, both old and new, and allow the new growth to come up and make the wood for next year's fruit. That must be done just as soon as the crop is gathered, in order to allow the new growth time to grow canes sufficiently strong for next year's crop. If J. M.'s vines are eight feet across they should be cut back to three feet and in January all the old canes should be cut out. I have never seen very good results in Southern California with dewberries without irrigation. Bordeaux mixture sprayed on the vines early in March will be the remedy for blight.—Q. A. Lobingier.

Best Variety of Strawberry.

Will you kindly tell me what is the best variety of strawberry plants to set out and when the proper time to set them?—E. H. D., Hemet.

We have tried over 30 varieties of strawberries and have found the Brandywine the only one that is profitable on our soil. There are other varieties that seem to do well in special locations, but the Brandywine does well everywhere, if they get reasonable care, and you secure plants that are properly grown. We consider February the best time to plant.

Some of the people here tell me that the vines of dewberries and blackberries should be cut level with the ground and that the cutting should be done just now. Could you kindly say through the medium of the Cultivator, if the cuttings out of all canes at this time of the year, is the proper thing to do.—T. L.

See Mr. Lobingier's reply to I. M. in this issue.

Pansy Seed.

At what time can I sow pansy seed and what is general method of culture?

Sow pansy seed from September to January. Last year I sowed my seed early in September, in boxes of nicely prepared soil, and when they showed the third leaf I transplanted them into similar boxes of very rich soil about two inches apart. When they had grown so that the foliage about covered the soil in the box, I transplanted them into a bed I had prepared on the lawn, putting them one foot apart each way. The bed was 16x40 feet with oval ends and held about 500 plants. They began blooming about December first and were a constant delight until the first of July. After the plants seemed well established in the bed I covered the ground between the plants with manure from the dairy corral, to the depth of two to three inches, first passing the manure through a screen to take out all lumps.—Q. A. L.

Calla Lilies.

I came from the East two years ago where in the fall all flowering plants had to be lifted on account of the cold. Since coming to California, I have a row of calla lilies and I hardly understand what treatment they should have. They bloomed freely last winter, then the leaves dried off and though they have had plenty of water have not started again. Should I have taken the bulbs from the ground when they quit blooming? Should they be divided this fall? Do they need a fertilizer? I also want to ask about a strawberry bed I have. I had two dozen plants given to me in February, but didn't have the place ready I wanted for the permanent place, so set them in a row along an irrigating ditch.

They have now begun to vine. Can I move them this fall and have fruit next year or is the fall the best time to move them? Should I wait till spring; would you answer in the Cultivator?—G. T. L.

Without seeing the plants, it is difficult to say first what is wrong. They should not even have died down if water was not withheld. Gophers sometimes work havoc with bulbous plants and may have destroyed the bulbs, thus causing the plants to die. Examine, and if the bulbs are there and sound, they will surely come into growth.

Leave your original strawberry plants where they are and you should get fruit next spring. Get your permanent bed ready so that you can set out these young plants in February. Set them in rows 20 inches apart and put the plants 8 to 10 inches apart in the rows. Keep all runners off next summer. If you have more young plants than you need for your new bed just leave them where they are and they will give you considerable fruit provided, of course, they are a good variety and your plants were not taken from exhausted bearing beds.—Q. A. L.

Carnations.

How and when may I propagate carnations from cuttings?

If only a few are wanted, take off vigorous shoots in December or January and plant them four to six inches deep in good soil, or where they are to grow.—Q. A. L.

The above replies of Mr. Lobingier, have been delayed by his serious sickness. We are glad to have him back again.

Blight or Bacteria.

The leaves on our young walnut trees, planted last spring, turn brown at edges, curl up and fall off. Please name disease and suggest remedy.—P. L.

Walnut blight or "bacteriosis." There is no known remedy.

RENDER CAESAR.

The Cultivator recently contained the following:

"A very simple and practicable test was made at the State Polytechnic school at San Luis Obispo of 158 hens. The test was made as follows: An attendant watched the hens for three days, and out of 158 only 65 were found on the nest during this time. This left 93 that had not laid for three days and were taken out and placed in a yard or yards by themselves, while the 65 were yarded by themselves. All were given the same care and feed and a close record kept from October till March. The 93 showed a net profit of only \$6, while the 65 showed a profit of \$71, or nearly \$1.10 per hen."

Mr. W. D. Beebe of San Luis Obispo, wrote:

I am sure the State Polytechnic would not own up to having such poor hens as mentioned. The test was carried out on my own yards. The school happens to be about half a mile from me. "Render unto Caesar that which is Caesar's," etc.

We are told, however, that the school, or Dr. Twombly from the school, conducted the experiments, though the hens belong to Mr. Beebe. Whether Caesar gets his due or not it appears Beebe gets the eggs.

FOR CALIFORNIA.

The rivers and harbors of California is the theme of the September issue of the monthly magazine For California, published by the California Promotion Committee. The frontispiece of the present issue is a physical map of the State, showing the harbors and principal waterways.

It may be had for ten cents by addressing the Promotion Committee,

San Jose has a new method of hot air process for drying fruit which it is claimed will do away with any sulphuring, also with the field drying, and it is claimed to be even less expensive. The inventor now offers to cure prunes at \$3 per ton.

AUCTION

9 Heifers

50 Cows

Thursday, Sept. 26
10 A. M.

On the J. L. Farmer Ranch at
COMPTON

(Take Long Beach electric car to Compton.)

30 Head Dairy Cows, Jerseys, Durhams, Holsteins—fresh and coming fresh, large milkers, in fine condition, all Good Dairy and Family Cows.

20 Head Yearling Heifers, Jerseys, Holsteins and Durhams.

For convenience of sale this stock is removed to the above ranch. Owner is retiring from the business and will positively sell every animal without reserve or limit.

Terms: 6 months' time will be given with note and approved security. Liberal discount for cash.

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It will pay you to know more of our sugar plantation profit-sharing plan. George Gould, speaking of this section, says: "The great Southwest will surprise the world in the next ten years with its development." Let us tell you more.

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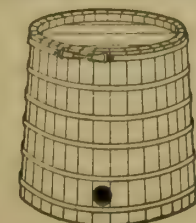
That likes to know that his wife chopped the wood that cooked his supper because he forgot it, or that she or some one must clean the lamps. She is the best wife you will ever have. Now have the best

Acetylene Gas Machine

and make "you all" happy. We have it and guarantee it. You need it. Write right now.

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Water Tanks, Wine Tanks made from carefully selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.

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Water Tank

The Shorthorn

THORTHORNS are plainly favorites in California. At the last State Fair a magnificent showing was made which overshadowed that of any other breed.

The exhibit was largely of the beef strain, though there are many fine milk strain shorthorns in the State.

The Origin.

The shorthorn is native in the counties of York, Durham and Northumberland, England. The original stock from which it came is unknown, but supposed to be a cross between native English stock and introductions by the Norsemen and Romans.

The introduction to America was about 1783. In 1833 an importing society was formed in Ohio which introduced some magnificent animals and did much to make popular the shorthorn.

Milk Strain, or General Purpose.

Regarding the milk strain we quote from a paper prepared by John Lynch of Petaluma. Mr. Lynch has had years of experience with this breed and is qualified to speak of their merits.

Mr. Lynch says:—

For our purpose the best age to breed the young heifers is from eighteen to twenty-one months. If you breed them younger it will mar their growth and they may not breed the following season. And if breeding is delayed so that they do not produce a calf until they are three years old or over, they may become coarse and stagish. Usually breed the heifers from March to June 15th, and the cows from December 20th to June

15th. We do not like late calves and it is an old saying. "Never a June calf for a bull."

We prefer to use a young sire on heifers. There is less danger at calving time and a heifer's calf is as growthy as a cow's, though it may lack something in size on the start.

In the cow class, if the calf pleases us on arrival, the cow is bred back to the same sire. But if the calf is not

December. There were seven strippers, so-called. (Cows not bred by June 15th are not bred until the following December and when they will after that.) The remainder of the herd freshened during the spring months. There were 8 2-year-old heifers in the herd, fifty-five in all. A great deal of whole milk was fed to young calves the first half of March. The house use called for two gallons of milk and nearly two pounds of butter every day in the year. We shipped Sherry, Freitas & Co., San Francisco:

1454 pounds of butter in March.



A Shorthorn Sire in the Herd of John Lynch

all we expected, the cow is mated to some other sire.

The angular and leggy cows are bred to a smooth, sport-legged bull and vice versa.

A Uniform Herd.

Our idea was to have a uniform herd of uniform production. How well we succeeded in accomplishing what we set out to do will be seen from the following records which will stand inspection: Eight cows freshened in October, twelve in November, five in

1392 pounds of butter in April.
1622 pounds of butter in May

A Barometer.

I wish to call your attention to the dairy cow as a weather barometer. While there was an abundance of grass, much of the weather was cold, and a north wind blowing, so they dropped back quite a bit below the March yield. Conditions were quite favorable in May, so we have a gain of two hundred pounds. The yield of milk was not affected so much as

the butter fat. In April the daily yield of milk ranged about 1500 pounds, or 27 pounds per cow. Owing to the shortage of dairy help, the cows were driven in and corraled about 7½ to 8 hours a day or a higher average would certainly be made. This much shows the persistence of these cows as milkers, half the herd from far to seven months advanced in the milking period and bred as well. We feel that it is a good grass record on a mountain ranch, and while we do not feed for record making at any time through the fall and winter, feed sufficient to bring the cows in well and keep them at normal work. We feed them all the hay they can eat and to 6 pounds of grain, usually grown barley and bran, mixed half and half. The springers are put on a grain ration a few days before calving.

The Day You Buy.

There is a homely maxim for stockmen's guidance; it is this: "The day you buy is the day you sell. If you buy good ones, you certainly have good ones to sell. It has been our aim to buy our herd bulls from breeders who handled their cattle for dairy purposes. Since 1899 we have drawn from the Middle West and further Eastern herds for our new blood and have a number of herd bulls that run up to date and down to date.

In Orrick No. 183,989 we have a large, smooth animal of 2600 pounds who traces direct to the 46's. In City Buttercup 2nd, No. 222,133, we have a grandson of J. K. Innis, herd heifer Imp. Duke Buttercup. He is straight in Kitty Gray blood and without doubt the best specimen of a milking shorthorn sire in the West.—John Lynch, Petaluma.

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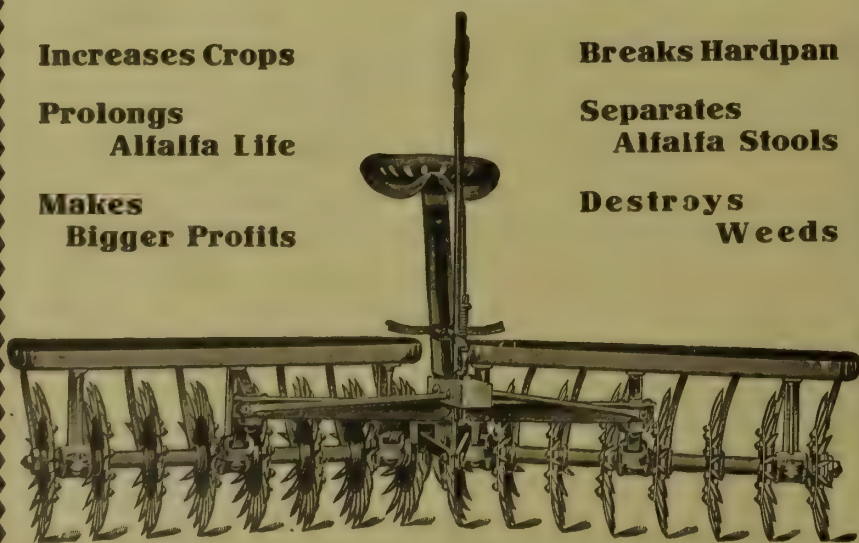
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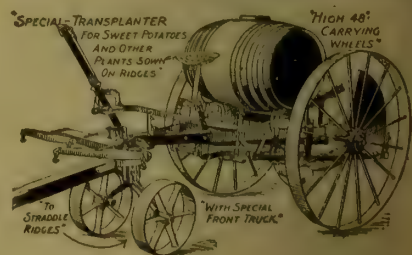


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Seeds! Plants! Bulbs!

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BULLS—Homer Dale De Kol, Walter Mitchell to J.V. Garcia, Goshen. Patsey Polkadot of Riverside, Chas. D. Pierce to He. E. Burleigh, Fresno; Prince Soko De Kol, E. C. Jones to J. V. Garcia, Goshen.

See us for Sanitary Milk Bottles. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

The Dutch Belted Breed

IT HAS been the pleasure of the writer to see only one Dutch Belted herd in this State and that was at the recent State Fair. Quite a bunch of these peculiarly beautiful animals were there and attracted much attention. That herd was exhibited by Mr. U. G. Strader of Ceres.

A Bit of History.

The Dutch Belted is a native of Holland where they are known as Lakenfield cattle, the term Laken meaning blanket or short about body.

They originated back at least as far as the seventeenth Century. They were established by scientific breeding and a fad promoted by the nobility of the Netherlands.

They were introduced to America as early as 1838. Later, Barnum, the showman, became interested in them and did much to build up the breed.

Characteristics.

They are smaller than the Holsteins, perhaps midway between Jersey and Holstein in size. In fact, from a thousand to 1250 pounds is about the cow's weight. The color is always black with the white belt.

An Eastern breeder writing Mr. Strader regarding this breed says:

"I have been breeding them for eleven years. I use them for butter-making, and they are one of the best breed for buttermaking there is. They are not quite as rich in butter fat as the Jersey, but give a larger quantity of milk. They do not give quite as much milk as the Holstein, but richer in butter fat. I frequently test my cows for butter fat with the Babcock test, and I have never had one that tested less than four per cent running from that from 4.8 to 4.10 per cent.

"Three different men that I have had making butter for me claim that they can make more butter from my herd than from several Jersey or

Guernsey herds they have run for butter making.

"Again, they are very hardy and hearty, and will stand our New England winters with the changeable climate, and thrive on most any kind of fodder. Very docile and picturesque in the fields or pasture. I actually think they are the best breed for butter making in our country today."

Rare in this Country.

A little booklet regarding these animals in explanation of their scarcity, says:

They were originally imported into this country in small numbers on account of the fabulous prices demanded for them in Holland. There they were controlled by the Dutch nobility, and during the long wars the cattle were nearly exterminated by the opposing armies, and in later years it has been impossible to get fresh importations, so that the increase has been limited to America. Several fine herds have been exported to foreign countries and this has had its effect. Some of the wealthy breeders have destroyed the increase of their herds as they did not wish them to become common in their vicinity. The increase of this breed has also been materially retarded by the discarding of animals imperfect in color marking.

Ten Reasons.

A friend of the breed in giving ten points in their favor, says:

They are splendid dairy cows; are hardy and vigorous; are of the easy keeping sort; are of the rarest breed in the United States; are the most novel and attractive cattle in existence; represent the most perfect example of color breeding; are distinctly different from what your neighbor has; their milk is the ideal drinking milk, four per cent butter fat; are gentle in disposition, and always bring good prices when offered for sale.

Animal Industry Work at the University Farm

FOR MANY years animal industry work at the University has been seriously handicapped by the lack of proper equipment. Students have not had facilities for studying types of the different breeds of live stock. The University owns a small dairy herd which provides classroom material for the study of the breeds represented, but conditions at Berkeley do not allow of the maintenance of a beef herd, nor of the keeping of horses, sheep and swine. Material, therefore, in these classes could only be secured by having students visit some of the larger breeding establishments. While this is an excellent thing as a finishing process, it is not nearly so good for the beginner, as it is impossible to remain long enough at one place for him to secure a thorough appreciation of the difference in the quality of individual animals.

The purchase of the farm at Davis, known as the University Farm, tends to overcome many of these difficulties. It is the intention, in erecting barns and other buildings, to have them examples, both in construction and arrangements for the students and for the farmers who may visit the place.

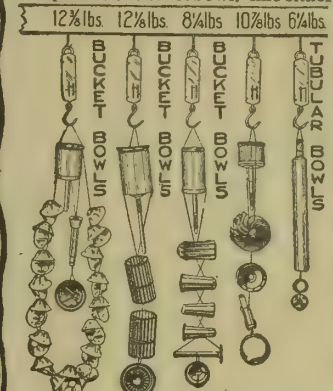
The students, too, must be taught to plan farm buildings of convenient arrangements and economical construction so they may know how to plan them for their own use. When the buildings at the Farm are complete, the University will stock up with animals of all the leading breeds. The dairy herd will be increased and we shall secure representatives of the leading beef breeds, as well as specimens of those breeds of horses, sheep and swine that appear best suited to California conditions. With an equipment of this kind the students, both in the school and college, will have ample opportunity for studying breed characteristics. They will learn to recognize the bad as well as the good points and by constant study of the individuals the ideal type will be so firmly impressed on their minds that it will be impossible for them to forget it.

The work of selecting and judging, however, is not the only line of importance to the live stock man. He must know something of the early history of the different breeds and of their development so he may the more

Concluded on Page 480

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The American Saddle Horse

IN THE early colonization period of America, many horses were imported from England and Holland. The newness of the country and the lack of good roads precluded the use of vehicles and necessitated riding rather than driving. By the time the pioneers moved westward to Kentucky, a fair "saddler" had been evolved.

A Bit of Kentucky History.

As the country became more settled the Kentuckians began to desire beauty and finish as well as strength and hardiness and, by luck or as an experiment, crossed their saddlers with the thoroughbreds, which were being used extensively in Virginia. In 1839 Imp. Hedgeford, a thoroughbred, was bred to Betsy Harrison, a native mare by Aratus, and Denmark was born.

Denmark was the originator of the American saddle horse. He was bred again to a "saddler" known as the Stevenson mare and they produced the great Gaines' Denmark. This horse, bred by careful selection, produced great stallions, and so prepotent were they that a family was founded as distinct in conformation, manners and gait as is the standard bred.

As the country became more developed and the roads improved, carriages were introduced, and so tractable was this horse that he was trained to draw a vehicle in addition to his other accomplishments. Thus he became a combination horse.

The stamina and courage of the breed has been proven, for during the Civil War, Morgan's command and other famous regiments were largely mounted upon the American saddle horse.

Recognized by Government.

Since the Spanish war, where they were also used and where they kept in good condition notwithstanding the rain and bad weather, Uncle Sam has recognized the efficiency of this breed by placing individuals of it at the head of the government cavalry studs in Porto Rico, the Philippines and other stations.

As evidence of his show-ring ability, we can point to the fact that one-third of the saddle champions at the Madison Square Garden in the last ten years are registered in the American saddle horse stud book, and fully three-quarters of the champions are eligible to registration.

The skeptic who has always thought that to ride a horse was to spoil him for driving can look at the authentic records of the achievements of this breed and be convinced of his error. Glorious Red Cloud, Thomas Lawson's unbeaten

champion, is a good example of what these animals can do in harness.

As to California.

Several years ago Mr. Spaulding (of athletic goods fame) started an American saddle horse farm at San Diego. He selected some of the best individuals in the south for his purpose. A year or so later John E. Marble bought from him Helen Rex, winner of the blue ribbon at the Los Angeles show of 1915. Experience with this animal convinced Mr. Marble of the possibilities of this breed, and in the fall of that year he purchased from General Castleman, of Louisville, Ky., president of the American Saddle Horse Association, five mares and a stallion, which he installed on his ranch at Ravenna.

Blue Ribbons.

Two of these mares had dropped filly colts before leaving Kentucky. On one of these colts, Pasadena, we first prize with her mother for mare and foal at the Lexington Horse Show, and is a full sister to Te Moor which was sold for \$7500 to head the stud of General Palmer in Colorado. The other filly, Selma, took first for two-year-old mare and championship mare at the California Fair this year, and is full sister to Lolita. The latter mare was sold to Mrs. Elliot at the Long Branch Horse Show for \$2500 as a three-year-old.

The five brood mares all have blue ribbons to their credit. Prince Arthur, the head of the stud, has won several ribbons before leaving Kentucky, took first prize in the continuation class at the Pasadena Horse Show in 1906, and at the State Fair this year took first for aged stallion and also the championship.

The colts produced in this stud show all the characteristics of the best type of the American saddle horse and those that have come from trotting mares, bred to Prince Arthur, are also distinctly the saddle horse type.

We can Beat the East.

The future seems bright for the breed in the southwest, as Californians are becoming enthused over the prospect of excelling the East with these horses as they have done in the past with the standard bred and the thoroughbred.

The American saddle horse is a perfect all around horse. He is courageous in time of danger, always a good friend and good for all. Rivaling the hackney in action in the ring and doing five gaits under the saddle, he still has the smooth, swinging stride of the roadster in harness.—Jean Carey, Los Angeles.

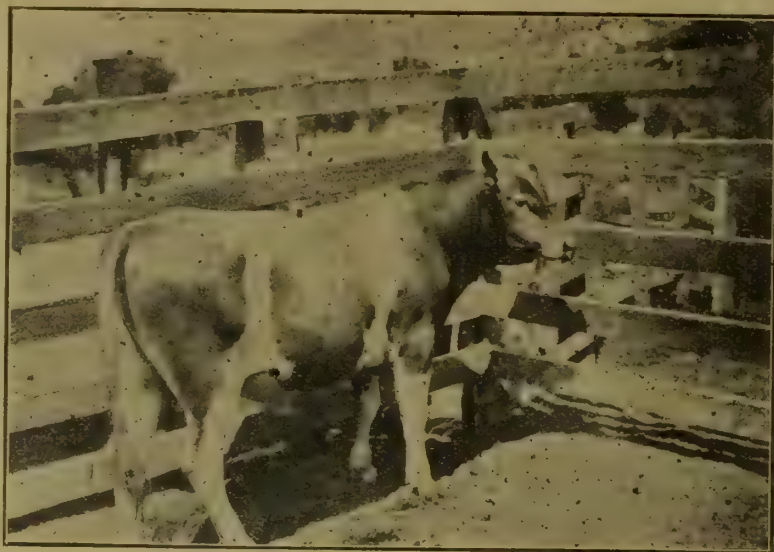
The Pacing Gait

Is the pace a natural gait? I say yes, every time. In the latter part of the sixteenth century, when we began importing horses from the mother country, they had nothing but pacers, so in the nature of things our first horses were pacers. Rhode Island developed the gait and on the strength of the gait shown by these horses they got up a big trade with Canada and the West Indies. The Dutch, who had a colony at New Amsterdam, now New York, brought the first horses into the United States that did not pace. They were from

Utrecht, in Germany. By uniting the Dutch horses of Utrecht with the native pacing mares of the country we got one of the most remarkable horses ever bred—Justin Morgan, bred from a Dutch horse at Wit Springfield, Mass. He did not show his mother's gait, but for short distances was fast at both the trot and the run. Taller and heavier than were the ordinary horses then in use, he distinguished himself for his ability to move loads that would anchor other horses.

A Bit of Early History.

In 1710, a jumper known as the



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HERD BULL **GLENWOOD'S COMBINATION** NO. 1927
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Registered American Saddle Horses

HOME OF **PRINCE ARTHUR** NO. 2387
SIRE—Highland Denmark Reg. No. 730
DAM—Miss Humphreys Reg. No. 1892

Three Blue Ribbons and Two Championships California State Fair This Year

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P. L. JOURDIN,
Foreman at the Ranch
P. O., Acton, California



Prince Arthur

Darley Arabian was brought into England. With his advent began the disappearance of the pacing habit of action in English horses. In 1717 they brought from Paris, France, the Godolphin, a larger, heavier quartered horse than the Darley. The cross as a nick was ideal, and soon developed a class of jumping horses of which the English as a people became very proud. The county of Norfolk seems to have kept more to

was between the descendants of the Dutch horse and the pacing mare, and young Bashaw and a pacing mare, with more pacing blood added in nearly every cross from 1827 to 1844. Between that and 1850, Lady Moscow a Morgan, Pelham a converted pacer and Lady Suffolk a Messenger kept showing the possibility of a 2:30 trotter.

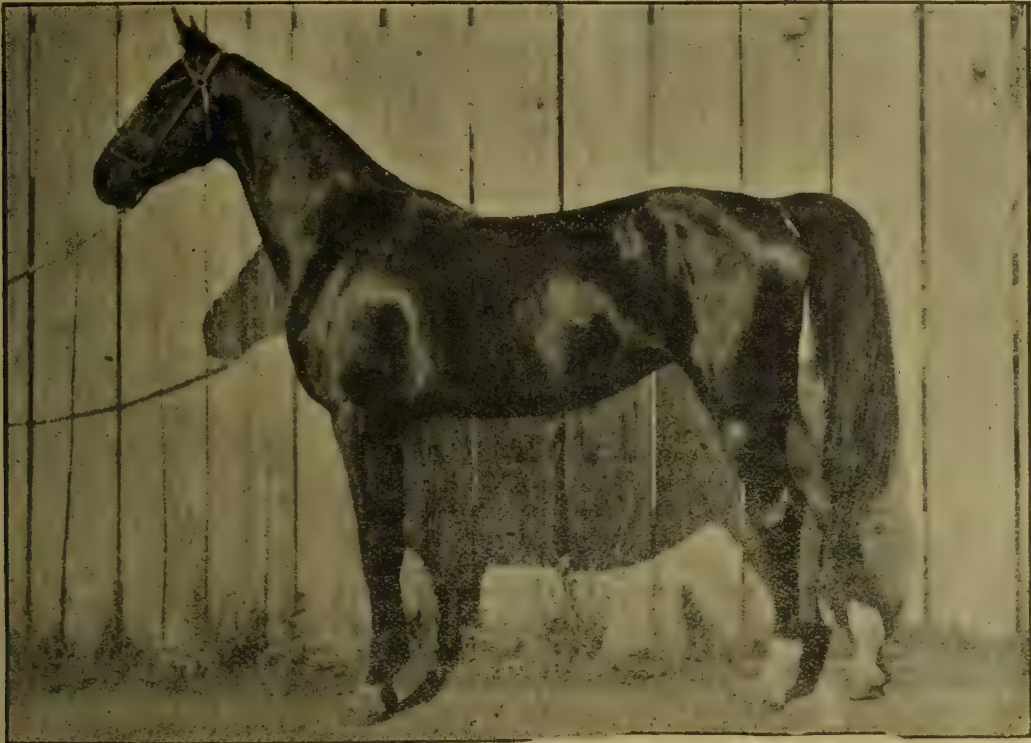
In 1844 Messenger blood produced a brown colt, unknown on his dam's

same blood, with the addition of the blood of Webber's Tom Thumb united with the Bashaw-Clay blood of Black Hawk 24 gave us a horse that on the extreme outskirts of civilization gave us two trotters sired when he was a four-year-old. Green's Bashaw was possibly the greatest trotting sire bred before the Civil war.

No Sore Toe.

In 1854 there was foaled a sorrel

old 2:25 trotter ever bred, produced Thistle, 2:13¼, pacing bred, to a daughter of Guy Wilkes produced Guy Thistle, 2:18¼ pacing. He bred to the daughter of a Shetland pony mare produced the trotter Lotta, 2:08¼. in 1907. Potten, by Patron, trotted to a record of 2:14¼, was put to pacing and paced in 2:12¼, and this season had out among his trotting colts Warner, 2:19¼. A gait that we have kept for 200 years and have developed in that time from 2:30 to 1:55 we are not prepared to accept as a sore toed or unbalanced trotter.—L. E. Clements, in Coleman's Rural.



A Typical American Saddle Horse
Selma, 3295, property of El Rancho Soledad, Ravenna, Cal.

the old manner of breeding, and here from one of these improved horses on a pacing mare came the Shales horse—the first horse to trot 100 miles in one day. All of this breeding was carried on without registration or written history, and is largely tintured with fiction, but in the early part of the eighteenth century an attempt was made to unite this traditional line of breeding, centering everything in a cross to one or both the Darley or the Godolphin, and in 1810 the first connected history of the running horses was given to the public.

The 2:30 Horse.

As late as 1750 we had imported less than fifty horses that carried the blood of the Darley or the Godolphin—Rhode Island was supplying the outside sections where travel was necessarily on horseback with these Naraganset pacers. At this time, or a little earlier, a horse probably three-fourths running bred, known as Messenger, was imported. He was larger than most of the horses then in America. The pacing habit of action seems to have been broken up in him, and his descendants became noted for long distance drives. As early as 1720, horses bred in Rhode Island and Virginia were pacing miles better than 2:30.

Another Century.

Another 100 years and one of the pacing mares of the country was bred to a little black horse called Grand Bashaw, and got Young Bashaw that was bred from a mare brought from Ohio—then on the borderland of civilization, and in 1827 she foaled a black colt that became noted as a trotter, and in the formation of our present trotting breed, and was registered as Andrew Jackson 4. From 1827 to 1844 the fight for supremacy

side, that has shown in his descendants less inclination to revert to the pace than any horse or line of breeding yet produced. In 1849 a union of Messenger and pacing blood with the blood of the Norfolk trotter, Belle-founder gave us Hambletonian. The

pacing colt that was the first horse to sire 50 2:30 trotters. This was Blue Bull 75. Sidney was a trotter, but for some cause went to pacing and took a record pacing of 2:19¼. Bred to a pacing bred mare the dam of the first two-year-

California Importer of Clydesdales

Along the banks of the River Clyde, back in old Scotland, there were many sturdy Scots breeding up a strain of horses of which it is said: "They surpass all others in length of stride, in straightness and sprightliness of movement, in their ability to keep their hocks together, with mechanical accuracy of motion, whether walking or trotting."

This horse was the Clydesdale, of which thousands have been imported to America, and many of them are today raising the grade of the American draft horse.

Amongst those who have engaged in the importing is Mr. Wm. McKie of 407 Aliso street, Los Angeles, himself "imported," coming direct from the farm in old Scotland, where his father for years bred the Clyde.

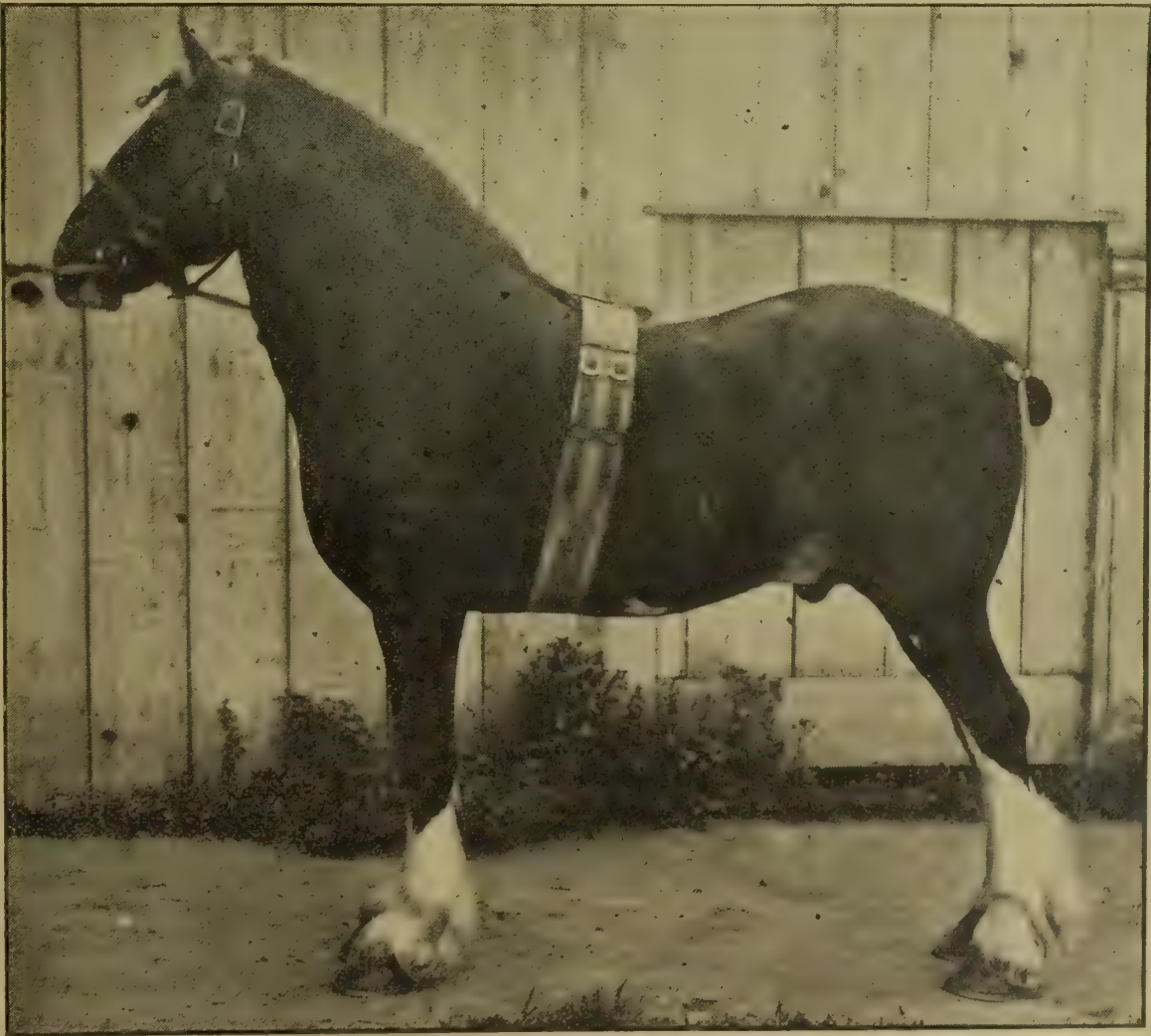
For the past fifteen years Mr. McKie has been engaged in importing Clydes, also Hackneys and Percherons. But his pride and favorite is the Scotch horse.

The one whose photograph appears on this page is Mirror, (13106,) (12643,) which was imported and is owned by Mr. McKie. This magnificent animal is five years old, weighs over 1800 pounds and is almost perfect in form.

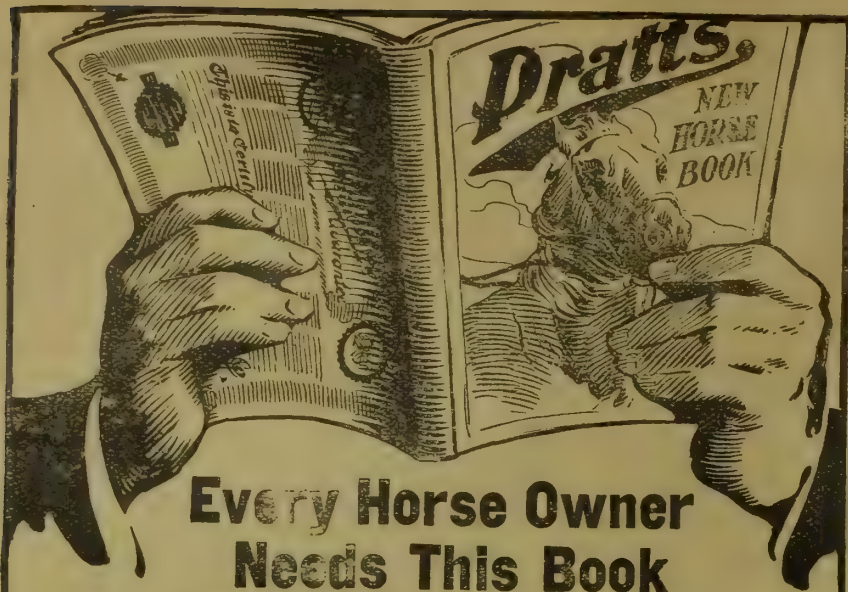
He was first prize winner of California State Fair, '07, also at Pasadena '07 horse show.

At the State Fair grounds this horse attracted much attention for his open, intelligent countenance, fine form and carriage.

Any one interested in these horses should get in touch with Mr. William McKie, 407 Aliso street, Los Angeles



A Typical Clydesdale
Mirror (13106) (12643). Property of Wm. McKie, Los Angeles



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California Angoras

ANGORA goats were brought to California about forty years ago, and for some time after their introduction into this State, there was considerable experimenting done by breeding the Angora bucks to the common goats of California.

The first cross was covered with a short, silky coat of mohair, which, to beginners, looked like a very profitable material. However, when the animals were shorn, it was discovered that the weight of the fleece on this first cross was not more than one pound per head, and when this cross-bred hair was shipped to the mills, they immediately objected to the fleece on account of the number of common goat hairs in the material and the scarcity and shortness of mohair fibers. Very little was

stock, we may mention that C. Bailey & Sons Co., of San Jose, Cal., one of the pioneers of Angora industry, won the Premier Championships for exhibitors and breeders at the last World's Fair at St. Louis. These were the highest honors obtainable and were secured in competition with all of the best American flocks and some South African stock.

California has, undoubtedly, an immense acreage which is especially adapted to Angora goat raising. Goats are natural browsers and the brush-clad hills of the Sierras and Coast Range are especially suitable for Angora farming. Angora goats require much the same care and attention that sheep do. They cannot be turned loose upon the ranges and expected to net a revenue without careful handling.



Capetown

A Great Sire Imported from South Africa by C. P. Bailey & Sons

known about Angora goats at that time and beginners were easily persuaded that these first cross animals were real Angoras.

A good many of the early Angora goat farmers in California paid dearly for their experience in the Angora business, as they bought these low-bred goats for Angoras at comparatively high prices and they were never able to make a reasonable interest on their investment. Some of the original breeders of Angora goats have continued in the business and they have today flocks of Angoras bred from the best of Turkish and South African sires and dams.

As an evidence of the quality of

Any eighteen-inch woven wire fence, topped by two or three barbed wires will hold goats. They do not jump over fences unless they are trained to, but they do go through or under them.

Goats do well in almost any climate, but the California foothills are especially suitable, because the brush does not lose its strength in the winter time. Goats can be run on the range the year round, and except on a few bad days, will make good living for themselves without extra feeding. There are now many thousand good Angora goats in California, and the industry is growing rapidly in this State.

Milch Goats

WHILE milch goats have long been a prominent feature of live stock industry in Europe, no special attention has been given the subject in this country until 1904, when sixteen Toggenburg and ten Saanen goats were imported from Switzerland.

The Toggenburg goat is larger than our native goat, brown in color with a white bar down each side of the face, and usually hornless. They are especially noted for their milking qualities, giving from four to five quarts a day, as a rule, and continuing in profit for seven or eight months. As with cows, good food and regular milking are necessary to obtain best results. They seem to adapt themselves readily to California conditions. They must have a

good shelter from storms always accessible, and in this climate they also seek shade during the heat of the day. A rocky hillside is their delight, and low, wet pasture land should never be used. Especial precautions should be taken against their browsing on pasture where they have been running for any length of time, as the poisoned grass causes a disease of the bowels almost incurable. The goat is practically immune from tuberculosis.

Pegler, an English authority on the milch goat, says:

"Apart from its medicinal qualities goat's milk is, for domestic purposes alone, far superior to the ordinary milk supplied by dairymen, has all who have tried it can testify. Boiled and used with coffee it is delicious.

giving the latter a rich, creamy appearance, while a few drops in a cup of tea are more than equivalent to a teaspoonful of cow's milk. When used in cakes and puddings its superiority is quickly apparent both to the sight and taste, imparting a rich yellow color to these articles when cooked, and thereby, acting economically by lessening the requisite number of eggs. Its only disadvantage for any purpose is its liability to curdle, which it is very apt to do if used rather old. It bears diluting well and even when mixed in the proportion of half and half is by no means 'sky blue.' Many persons are impressed with the idea that this milk has a peculiar flavor, but this impression is entirely erroneous, for when drawn clean from an animal in health it resembles cow's milk both in taste and appearance, the only difference being that it is richer, thicker and slightly sweeter, containing as it does, a larger proportion of sugar and cream and less water."—H. A. Wood, Pasadena.

A Coming Favorite

IN RESPONSE to your request for information concerning the milch goat, I might say that since preparing the paper on that subject for the Farmers' Club Institute about three years ago, which you published in the Cultivator at that time, I have improved every opportunity for studying the milch goat question; have written and received a great many letters on the subject and have cared for and milked one myself for a period of six months; have given the milk a fair trial as a baby food and for general household use and I can assure you that I am now more of an enthusiast than ever for this clean, economical little dairy animal.

Hard to Get.

The main reason they have not come into more general use is the expense and difficulty in securing good milch goats. In addition to the quarantine regulations against their native countries, the great risk and heavy expense of their long journey is almost prohibitive. Although our Department of Agriculture at Washington has spent considerable money in gathering and distributing information, and in other ways trying to encourage the milch-goat industry. The custom officials still exact a duty of 20 per cent ad valorem when they arrive at the port of entry. In California.

I placed an order for several head with Mr. F. S. Peer for his 1905 importation, but when they arrived, without giving us a chance, he turned them over to another party who at once raised the price agreed upon.

One year ago I secured in Canada, for parties here, a choice young doe of each of the three leading Swiss breeds, Toggenburg, Saanen and Alpine, and with them a pure bred Nubian buck intending to try the Nubian cross on these different breeds. Unfortunately the Nubian was unsound when he arrived and died shortly afterwards.

The young does have all dropped their first kids this season and they and their kids are thriving and doing well and give evidence that any one of these breeds may be readily acclimated and will thrive and do well here. And I believe the Nubian would have done equally as well had

Concluded on Page 481

JUICY STEAKS

To repair waste tissue in an animal organism requires food. To make growth necessitates the giving of a greater portion, and to build fat on tissue—the end sought in putting a steer, hog, or sheep in market condition—calls for a very large consumption of nutritious elements. Now heavy feeding has a tendency to bring about derangement of the digestive organs. The wise feeder prepares the animal system against the steady and tiring strain which the stuffing process puts on both stomach and nerves.

He follows the suggestion of Dr. Hess (M. D., D. V. S.), who has formulated a prescription in which are found the elements long ago recognized as beneficial in building up and strengthening the digestion.

DR HESS STOCK FOOD

not only makes the ration digest perfectly, but it creates increased appetite for more. A steer fed with Dr. Hess Stock Food consumes, besides its grain, a larger amount of rough fodder, which of course makes the grain more available for fat forming, thus adding to the profit of feeding.

Dr. Hess Stock Food contains also iron for the blood and nitrates to act as cleansers of the system, which are endorsed by such men as Professors Quitman, Winslow and Finley Dun. It makes cows give more milk and keeps farm teams in fine condition.

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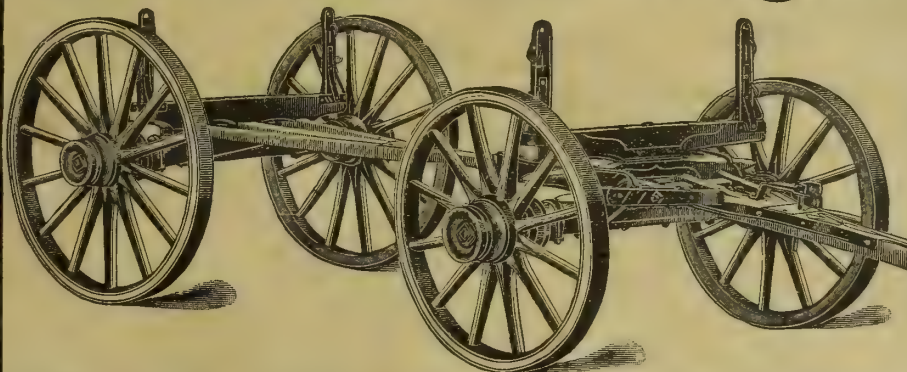
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CAN MONEY BE MADE IN STOCK.

We have heard people say, "California isn't a stock country." We were inclined to accept this statement before becoming acquainted in the State, but after a few years, residence and considerable traveling, we have altered that opinion. California may not have been a good stock country under former conditions of stock management, but under improved conditions of irrigation, and knowledge obtained from experience, it is a settled fact that this state is a reliable stock country.

Before the Imperial valley had become settled and watered, that whole section was a desert. Today it is an oasis, and among its wondrous resources, the stock industry is credited about the first. Cattle, horses and hogs from the greater per centage of the wealth of this land of plenty, and the stock industry in the Imperial valley is but in its infancy.

In the territory north of the Tehachapi, which was formerly divided into large holdings, of thousands of acres, estates of old Californians, stock always abounded. Immense fortunes were made by sheep and cattle men, but the size of the holdings precluded a general stock business.

At the present time there are not nearly so many great estates. The land has been divided into farms of reasonable size, and there are hundreds of farmers raising stock now, where there was one twenty years ago. In proportion to the growth of this industry the wealth of Northern and Central California has increased until it is conceded that in the near future the stock in-

dustry of that section will equalize that of some of the Middle West States. Statistics compiled by the Department of Agriculture for 1906 show that there were 1,167,107 milch cows in the State valued at \$21,474,767. Horses, 391,680, valued at \$36,120,721. Mules, 80,750, valued at \$8,599,875. Sheep, 2,422,423, valued at \$8,006,107. Swine, 550,581, valued at \$3,909,125. In swine there is a shortage which ought not to exist when we remember that there is a greater percentage of profit in hogs than in any other class of stock raised.

But as irrigation and alfalfa increases the swine industry will develop, so will the dairy, for as our farmers gain experience, especially those who come from eastern states, they will find that more money is realized from swine than from beef cattle and proportionately more from dairy cows. The next twenty-five years will develop the stock industry in California, until it will reach respectable comparison to the best stock raising States in the Middle West.

IMPURE ALFALFA SEED.

The risks run in buying alfalfa seed are far more general than is generally supposed. F. D. Coburn, of Kansas, in an address before the Shawnee County Alfalfa Club, made the startling statement that as high as 88 per cent of noxious seeds had been found in one sack of alfalfa seed.

Recognizing the fact that much of the seed on sale is entirely unreliable, the Agricultural Department at Washington, and some of the more wide awake experiment stations, have been making tests to discover the defects and values of seed ordinarily found in the market, and some startling revelations are the result. The Washington investigators, for example, found in one pound of so-called alfalfa seed, on sale, 32,420 noxious weed seeds; in another, 23,082, and in still another, 21,848. Of the first named pound less than 59 per cent was alfalfa; less than 29 per cent was germinable, and among its impurities were 5490 seeds of dodder—surely the devil's own invention. One pound of another lot contained only a fraction over five per cent that would grow, and a third lot but slightly over six per cent.

The Ohio Station bought for testing fifteen different samples, a dollar's worth each. A pound from one of these carried 18,144 lambs quarter or pigweed seeds, and another 6,420 seeds of crab grass and 3,325 of foxtail. Seed supposedly costing \$7.80 per bushel was, when cleaned, found to have cost actually \$12.74 per bushel.

The Oklahoma Station, among many samples, tested one having 60 per cent pure seed and 40 per cent of impurities. Only 65 per cent was germinable. Another sample which at first sight would be classed as good, was found to contain per pound 453 witch grass seeds, 90 plantain seeds, 151 crab grass seeds, 90 wild carrot seeds, 453 foxtail seeds and 155 Russian thistle seeds. As the official who made this test says, if twenty pounds of alfalfa seed of this grade were used to sow an acre one would have approximately two seeds of witch grass and two foxtail seeds for every ten square feet; four seeds of plantain, seven Russian thistle and six seeds of crab grass for each hundred square feet. These would doubtless grow and the mischief they might lead to nobody can estimate.

The same per cent of impure seeds prevails in many lots of alfalfa seed shipped into California, and every other state, and it is a matter of the gravest concern to growers to know when they are obtaining pure seed. There seems to be but one course, as Mr. Coburn suggests, and that is to buy seed of only thoroughly reliable dealers or growers whose names are a guarantee and stand for reliability. Get samples early and test them. Learn positively that it is alfalfa seed, and not something else, and that it will grow. If more than 10 per cent of impure seed shows up, don't buy it, for something is wrong. Choice seed, the only kind worth sowing, always commands a good price, and it is worth it. The Agricultural Department at Washington, or your state experiment station, will test samples of seeds sent, and report on them without charge.

Remember this, and save waste and weed pest and consequent loss.

Shop Talk

SPECIAL OFFER—To the many readers of the Cultivator who are not subscribers, and to others to whom this special stock number of our paper will go, we make this offer of the Cultivator free for the balance of the year.

Many of our subscribers know of some one who has been wanting the Cultivator, but for various reasons have put off ordering, and now is a good time to remind them and to act.

Just fill out the following blank, enclose \$1 (the regular yearly price,) and we will send the Cultivator from date of receipt to January 1, 1909. Act quick for you see the sooner done, the better for you.

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* * *

Whenever you feel in the humor to do the Cultivator a favor, just write in to us giving the names of anyone you may know who is, or should be, interested in our paper. We will send them sample copies and get acquainted.

Such as the above, and suggestions, are appreciated by us, though we can not always acknowledge them by letter.

THE LESSON OF THE HOUR.

The present financial flurry shall serve to bring the country back to a common sense view of living, it will have performed a valuable service for which the nation ought to be grateful.

For the past twenty-five years we have been living too fast; spending money recklessly without a thought of future possibilities. We now see our mistake. We must return to a more economical way of living. We must dress less extravagantly and buy fewer autos. In short, we must economize. The effort so to do will be attended with inconvenience, but it must be made. Men and women will have to learn that they can not go on spending money lavishly as heretofore, they must count the cost before making the investment. All this will do us good. We shall emerge from the present crisis wiser, and, we trust, financially sounder, than for years. The country is all right and our banks will be right in a little time, for the wealth of the country is in our farms and our farmers, and when this is the case, no lasting peril will befall the nation.

GREATER APPROPRIATION NEEDED.

The last year book of the United States Department of Agriculture gives some interesting statistics relative to State appropriations for farmers' institutes. According to this authority farmers' institutes were held last year in all the States and Territories, with the exception of Alaska, Florida, Nevada, New Mexico and Washington.

The published summary of the work shows that Illinois appropriated for the work \$30,281.55 and that 108 institutes were held. The second largest appropriation made was by Pennsylvania of \$20,500, which held 226 institutes.

Nebraska spent \$8607 for 160 institutes, Iowa \$8096 on 69 institutes, Minnesota \$22,238 on 105 institutes, Colorado \$400 on 40 institutes, Kansas held 150 institutes. California spent \$6000 on 84 institutes.

California's sessions numbered 296 and the total attendance at these meetings was 20,470. The vast service rendered the farmers by the institutes held in California contains enough argument for a more liberal appropriation, without any appeal from the Cultivator along this line, but we make the assertion that no appropriation can be made which is more far-reaching in its value than that made for farmers' institute work, and it ought to be doubled.

Agricultural Notes of the Pacific Coast

Northern California

Alfalfa land is in great demand at Dixon.

A new cheese factory is to be established at Modesto.

Several lots of hops have been sold at Ukiah at 83-4 cents.

Orange and olive crops at Oroville are about the same as last year.

At a recent wool sale in Cloverdale the price ranged from 13 to 121-2 cents.

Practically all the Tokays about Woodland were forwarded before the recent rain.

The Coldbrook Creamery Company at Loleta, Humboldt county, has closed up.

Santa Rosa soft shells grafted on the California black walnut are proving profitable at Ukiah.

The Yolo Democrat is giving some strong articles on the profitability of fruit culture in this section.

P. H. O'Gara of the Department of Agriculture is in Sacramento to continue pear blight investigations.

The Farmers' Institute at Davisville was a complete success both as to attendance and interest shown.

The money stringency has caused some fruit buyers in northern Sacramento to withdraw from that field.

Senator Flint is in Washington looking after the interests of California in the National Drainage Convention.

The shipments of fruit from Placerville have not been very extensive this year, but have been exceedingly profitable.

The forest service of the U. S. Department of Agriculture has established an inspection office at San Francisco.

The Chico Driving Association has made arrangements for the purchasing of land on which to maintain a track.

Dixon creamery paid its patrons \$5000 during October, allowing four and three-fifths cents above the market for butter fat.

The president has signed a proclamation creating additions aggregating 490,451 acres to the Stanislaus and Lassen National parks.

The Central Creamery Company at Eureka is to enlarge its storage department by the addition of a forty-ton refrigerating machine.

Chestnuts and walnuts, in an experimental planting at Ukiah, have proved so satisfactory that they will be planted on a larger scale.

Investigation reveals the fact that the White Fly is in existence at Wilhows, and was first found in the grove surrounding the courthouse.

A train of six cars of granges of Sacramento county attended the dedication of the State farm at Davisville at the recent Farmers' Institute.

A committee has been appointed looking toward the establishment of a school of experimental horticulture with Luther Burbank at its head.

David Lubin, formerly of Sacramento, is now in Washington conferring with the President regarding the International Institute of Agriculture.

Central California

Modesto is working for a new cannery.

The San Jose Poultry Show is being held this week.

The precipitation of Monterey county amounted to 1.16.

The storm gave San Jose little over one inch of rainfall.

The seed farm industry in San Benito county is increasing.

Guggenheim Company at Fresno is paying 43-4 cents for raisins.

The forming of a farmers' club at Kerman, is under discussion.

Carpenter & Co.'s cheese factory in Tulare county is to be enlarged.

Some raisin growers at Fresno are planning to seed their own raisins.

The precipitation at Bakersfield amounted to nearly one-half inch.

The Turlock Journal reports olives as very profitable in that section.

Pajaro valley is still in straits over the shortage of cars to move its apple crop.

The Bayside Canning Company at Alviso is putting up fifteen cases of tomatoes a day.

The San Jose Grange has adopted resolutions recommending the initiative and referendum.

Miller & Lux are to throw open twenty-five acres of land for colonization near Madera.

The Tulare county Mutual Fire Insurance Association has written insurance amounting to \$165,000.

The county veterinarian of Santa Clara county, declares that anthrax is entirely eradicated in that county.

The grape crop at Wrights and other Santa Cruz mountain grape-growing sections, is a partial failure owing to the early rains.

At the recent meeting of the Tulare grange, John Tuohy gave an account of the State grange at San Jose.

W. W. Mackie, of the Division Soils, is to experiment in the restoring of wornout potato soils near Stockton.

The citrus growers near Lindsay have pooled the shipping of their oranges, and will ship through the Citrus Union.

Dr. H. S. Reed, of the Department at Washington, is soon to make a line of experiments near Stockton to learn as to crops to rotate with potatoes.

The failure of the grape crop about Wrights is very serious, as the entire shipment this year amounted to only four cars against seventy-five last year.

Orange picking in Tulare county section is causing the question of Japanese labor to be discussed, and it is hoped the growers will realize the danger and give white labor preference if possible.

Some embarrassment exists in Fresno owing to the lack of funds to handle the great raisin output of this year. The price is still good, the financial stringency only making the securing of money on the bills of lading almost impossible.

The recent rains have made the ground so that every plow in the country will soon be busy making ready for the coming grain crop.

Southern California

West Riverside is soon to have a creamery.

A pre-cooling plant is to be erected at Coachella.

San Bernardino is to have a new large pre-cooling plant.

Orange county has about three thousand acres of alfalfa.

A meeting of cantaloupe growers was held at Imperial on the 29th.

Chino's average yield of beets was twelve tons per acre of 16.1 per cent beets.

The Brawley Mutual Water Company has been organized with a capital stock of \$20,000.

A farmer in Imperial valley is harvesting his second crop of corn from the same ground this year.

Reforestation San Clemente under direction of the Department of Agriculture is contemplated.

The walnut crop is practically all in hand and found to be materially short of last year's output.

Redlands Fruit Association will increase the capacity of its packing house before packing season.

Forest Supervisor Charlton, is building a house at Glendora for use of forest rangers in forest reserve.

Colorado melon growers are visiting Imperial valley to learn regarding its conditions in melon culture.

The sugar factory for which Santa Ana has been laboring for some time will not be constructed during the coming year.

The campaign of the Chino sugar factory ended on Sunday Oct 20, after 56 days continuous run. Forty thousand tons of beets were sliced.

A sheep breeder has introduced a trainload or three thousand two hundred sheep from the northern part of the State. They will be used for breeding purposes.

The Durate-Monrovia Fruit Exchange forwarded 177,359 boxes of oranges or about four hundred and sixty-two cars. The amount paid to growers was \$264,126. Fifteen thousand was spent for labor in the packing house.

The crop of olives at Hemet is unusually large and the olives are of very fine grade. The Big Springs ranch is showing some olives of extraordinary size, some of them being and inch and an half long and three inches in circumference.

TOMATO GROWERS' IMPORTANT MEETING.

A tomato growers' meeting will be held at the new Pathological Laboratory, Whittier, on Wednesday, November 20th, at 10 a. m.

The object of this meeting will be to show the growers the possibility and methods of controlling the tomato blight, which has recently destroyed the crop in this section. Treatment by spraying of vines on the laboratory grounds has resulted in controlling the blight completely at a very slight expense.

All persons interested in tomatoes are urged to attend and see the results of this treatment. A practical demonstration of the methods of preparing and applying the spray will be given.

Laboratory grounds at corner of Greenleaf avenue and Baldwin street, one block south of Pacific Electric terminus.—Ralph E. Smith, Supt.

The Coast

Oregon pears are selling at New York at ten cents each.

Fifty cars of apples at North Yakima are waiting cars.

Barley is proving a most profitable crop at Moscow, Idaho.

Walnuts have become a staple crop in Yamhill county, Oregon.

Alfalfa at Kenwich, Wash., averages twelve tons per acre.

Weiser, Wash., is shipping large quantities of cattle to Alaska.

Record prices are being obtained in Montana for wool this season.

A fruit growers' union has recently been formed at Eugene, Oregon.

Utah college people are planning for a series of institutes to be begun soon.

Forest Grove, Oregon, recently shipped a full carload of angora goats.

The hired men of Oregon have become so independent that they refuse to milk cows.

A Tacoma, Wash., gardener marketed \$705 worth of celery from one acre of ground.

A fruit grower at Caldwell, Idaho, grew a thousand dollars worth of apples on five acres.

Yamhill county, Oregon, held an apple show in M'Minnville, October 31 to November 2.

The large cannery recently built at Sumner, Washington, has a total floor space of 51,300 feet.

For want of storage eighteen thousand sacks of wheat are piled on the ground at Mohler, Wash.

At a sale of six thousand head of sheep at North Yakima last week the average price was \$4.75 per head.

Experimental planting of olives in Calumbia county, Washington, are said to have been very successful.

With grain stacked everywhere at Pendleton, Oregon, the farmers are still clamoring for better car service.

The government has hired eleven hunters to wage war on wolves, wild cats and mountain lions on national forest lands of Oregon.

Prunes paid Oregon growers this year \$1,590,625; pears, peaches and cherries all in excess of \$230,000, and strawberries over \$400,000.

The sheepmen of Oregon are refusing to pasture their sheep on the national forest reserves, claiming they can do better with private pasture.

According to the president of the State Board of Horticulture, the success with which Oregon growers are meeting will "within a short time make fruit growing the greatest source of wealth in the State."

What is believed to be the largest check ever paid to any one wheat grower in the Northwest, has just been received by a Pendleton farmer for the season's crop raised on about 3000 acres of Umatilla wheat land. The check was drawn by the Pacific Elevator Company for \$70,842.70.

On the basis of reports from county inspectors, the value of Oregon's fruit crop this year is officially estimated at \$4,275,135. This figure, far in excess of any previous year, is based on amounts actually received by growers, and represents an increase of 53 per cent. over the fruit crop valuation of last year.



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Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

In Next Issue.

A large number of queries are crowded out of this issue on account of the large amount of space given to live stock in this special number.

Corned Beef.

Will you kindly tell me how to make corned beef?—W. H. Murray.

To one hundred pounds beef, take eight pounds salt, five of sugar or five pints molasses (Orleans best, but any good will do), two ounces soda, one ounce saltpeter, four gallons soft water, or enough to cover the meat. Mix part of the salt and sugar together, rub each piece and place it in the barrel (oak is best), having covered the bottom with salt. When the meat is all in, put the remainder of salt and sugar in the water. Dissolve the soda and saltpeter in hot water, add it to the brine and pour over the meat; place a board on top of meat, with a weight sufficient to keep it under the brine. Let the pieces intended for dried beef remain in the brine for three weeks, take out, place in a tub, cover with water, let stand over night, string and dry. String it (smoke for a few days, if you like), hang it up to ceiling over the kitchen stove, or on a frame set behind the stove, turn round once a day so as to give all parts an equal exposure, and let remain for three or four weeks. Test by cutting a piece, which should be well dried on the outside, and free from rawness to the center. When dried, sprinkle with ground black pepper, put in paper sacks, tie up tightly, and hang in a cool, dry, dark place, or put, without sacks, in an empty flour barrel and cover closely. Boil brine, skim well, let cool, and pour over the bony pieces left. These are good boiled and eaten either hot or cold, and they will keep good several months. Tongue may be pickled with the beef.

Or if a spiced beef is wanted, here is another:

To ten pounds beef, take two cups salt, two cups molasses, two tablespoons saltpeter, one tablespoon ground pepper, one tablespoon cloves; rub well into the beef, turn every day, and rub the mixture in; will be ready for use in ten days.

Thrush.

I have a horse that has something the matter with his feet. On all feet, just above the hoofs, for about one inch, there is a hard, honeycomb substance, white in color, coming off at times, leaving it raw. Have had it one year. It was affected when I got it, but not so bad as now.—A Subscriber.

This is a case of neglected thrush. Rub a little of the following lotion into diseased parts and repeat in two days:

Carbolic acid, 3 ounces.

Raw linseed oil, 3 ounces.

Comp Tinc benzoin, 2 ounces.

Shake before using and apply with a small swab.—Dr. Oliver.

Founder.

I have a mule which is lame in both front legs; walks fairly well in a moderate walk, but faster than a common walk. Travels with much difficulty. Legs or feet slightly in advance of natural walking position or motion. No swelling. Will you

kindly inform me of treatment.—Parlier Subscriber.

Your mule has been foundered, and if of long standing will remain stiff. Blister around the coronet, and a few months' run on wet pasture will be a benefit.—Dr. A. W. J. Oliver.

Bursting Cabbage.

Is there any way to handle cabbage that heads up in December to prevent it from bursting. Have a very fine crop coming on of the Winningstadt variety and they promise well if can carry them through. F. G. FLINT, Kelseyville, Lake Co.

I know of no practical method to prevent the bursting of the heads when operations are on a large scale. It has often been suggested that to partially pull up or twist off the the stock, it will result in so checking the growth as to hold it over for a limited period. I have never practiced it, but have often had the trouble feared by your correspondent. If there is opportunity to dispose of such part of the crop as ripens up first it would be one way of solving the trouble. If the suggestion of partially pulling is tried, you want to be careful not to sever all the roots, as the object would be to simply check the growth, and yet allow enough roots to remain to keep the plant in fair condition. The success of the experiment would depend somewhat upon weather conditions. More likely to succeed if the weather should remain cool. Q. A. L.

More About Onions.

Kindly inform me through your valuable paper as to what varieties of onions and potatoes are best for market use. Also method of growing them in deep subsoil. Is it advisable to plant them in young peach orchard? L. S. A., Fresno.

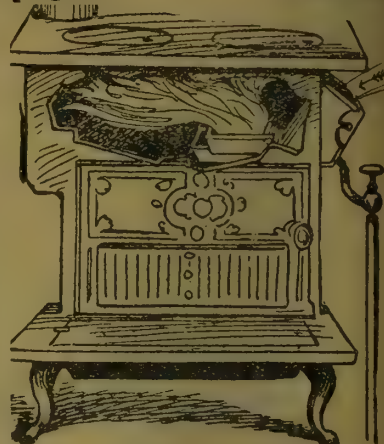
It would be easier to reply to such queries if the correspondents would state how or where they wish to market their product. If wanted for the local market some early varieties as well as late ones should be grown. If it is expected to wholesale only then it is usually better to confine one's efforts to growing a crop of some one standard variety that is well known and popular. Extra Early Red and Earliest White Queen are two varieties of onions largely grown in California for local markets—the former variety being more popular north of Tehachepi than here. Yellow Globe, Danvers and Australian Brown are grown largely for main crop. The Australian Brown is very popular with the dealer because of its splendid keeping qualities, but it wants good rich sandy loam and careful culture to produce well.

Early Rose and Burbank are varieties of potatoes largely grown in all sections of the State. A variety known as White Rose produces enormous crops of handsome potatoes and while not of the highest quality, always sells well because of its fine looks.

Plant the onion seed about February 1st in rows that are 14 to 16 inches apart. Thin out so that the onions will stand about three inches apart in the row. The ground must be kept in good condition by thorough cultivation, and damp enough by irrigation to avoid any check in the

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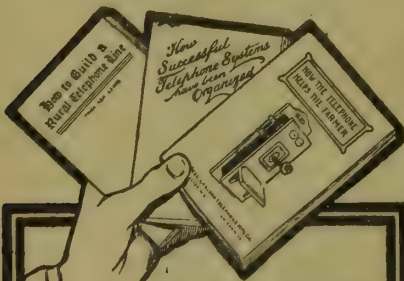
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growth of the plants from want of water. Unless you have land moist enough to grow any garden crop without irrigation, do not attempt to grow onions without making provision for irrigation.

Grow the potatoes in rows 21-2 or 3 feet apart. I prefer medium-sized well-formed potatoes for seed and usually cut them so that there will be one or two good eyes to each piece and plant about 12 inches apart in the furrow. Cover about 4 inches deep. In ordinary seasons, if the cultivation has been thorough, one or two irrigations will be sufficient—especially if they have been planted as early as February 1.

There is no objection to growing either of these crops between rows of young peach trees, provided you do not plant too close. How close will depend upon their size. But in every case room enough must be left to get by the trees with the cultivator. If these crops are grown with good care and kept clean, it will be an advantage to the peach trees.—Q. A. L.

SACRAMENTO COUNTY BERKSHIRES.

Sunnyside, Stock Farm, owned by G. A. Murphy, is located at Perkins, six miles east of Sacramento in the fertile American River valley.

The conditions are favorable for production of good hogs. Fruit, melons, squash and an abundance of green peas and alfalfa furnish a variety of foods.

But one breed of hogs is kept on the ranch. The large Berkshire being the favored one. They are noted for their size. A 10,949 weighed 1100 pounds at the State Fair, being the largest hog on the Pacific Coast.

There are sows in the herd that could be made to weigh eight hundred. Among the sows is Curzon of

Sunnyside, who won first prize as a yearling in 1906 and since then has farrowed 34 pigs, three litters in 360 days. One of her first pigs won first prize with a litter at the last fair; another first under six months. Perkins Farm Beauty has won more blue ribbons than any sow on the Coast. She is six years of age and won blue ribbons every year until this, when her daughter, Fashion Prin-

cess was placed ahead of her. Ruby Duchess is a very large, smooth sow 18 months of age, weighing about 500 pounds in breeding condition. She was an easy winner in her class and her progeny won second and third under six months; those of Curzon of Sunnyside taking first.

Several other sows complete the herd, one being a great granddaughter of Perkins Farm Beauty. Columbia fourth, the sensational show sow of 1907, was bred by H. C. and H. B. Harpending of Dundee, N. Y.; farrowed Nov. 20 1906 and sired by Starlight Royal by Gen. Starlight. She was an easy winner in a strong class of eleven and took championship honors. She has since been



sold to Judge Carrol Cook of San Francisco for two hundred dollars, the highest price ever paid for a Berkshire in California. She will be a money maker, as the pigs she will produce from Baron Premier 31st, by Premier Duke, will pay for the dam. Her litter sister will take her place in Sunnyside herd.

The boars in the herd, at present, are Prince of Perkins by Pacific Duke. This boar, while not a beauty, had girth of 78 inches and has the largest bone one could expect in a hog. He sired many winners since being in my herd. H. Gentry of Sedalia, Mo., and shipped to Sunnyside when a pig. His first litter from a young sow took the blue ribbon and he has one litter of fourteen to his credit.

Messrs. Harpending are getting a choice shipment ready for Sunnyside consisting of four males and two females. The choice male will be kept in the herd and the others re-shipped to Honolulu after they have rested from their trip.

Sunnyside Farm can supply breeders with young stock in Berkshires or Shorthorns at the very lowest prices. All letters of enquiry answered cheerfully and punctually.

On this page is a reproduction of a photo of one of Mr. Murphy's Berkshires, also another on cover of this number.

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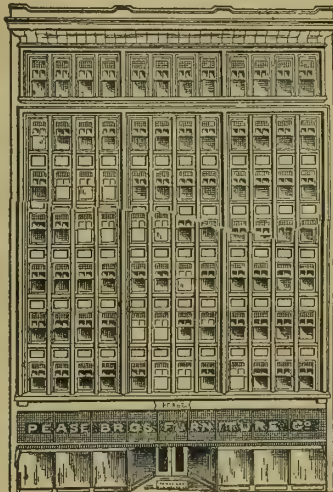
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Choose your diningroom furniture from our stock, which is representative of the best in the furniture line. The Old Colonial, Sheraton, Early English and the famous Craftsman styles are here in abundance. Our guarantee of satisfaction goes with every piece. (Fifth Floor.)

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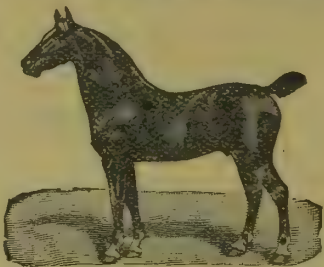
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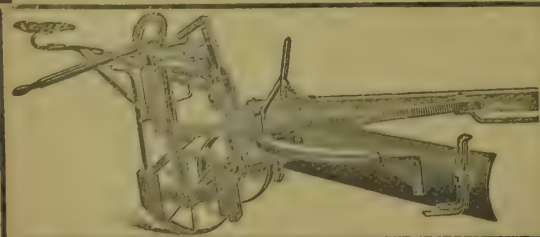
saves time of three men and two extra horses. It is easy on the horses. Has blade in front of wheels. Moldboard reversible. Machine turns in 6 ft. circle. Built for road-grading, Ditching, Land Leveeing, Foundation-digging,

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The Hereford

NO CLASS of beef cattle has become more popular in this country in the past twenty years than the Hereford. The Hereford is strictly a beef breed.

It is a native of England, taking its name from the town of Hereford where it first sprang into prominence, just what crosses originated this breed is difficult of analysis, for it dates back well into the eighteenth Century.

To America.

The introduction of the Hereford

The "rustling" proclivities which make it so valuable to breeders and rangers and the general perfectness of its type. The rapidity with which this breed fattens, under favorable conditions, and the ease with which it "finishes" for market, are important elements which have given it such wide distinction.

In size, it is one of the largest breeds. The bulls often weigh 2200 pounds and the cows 1300 or over. For more than 20 years the meat of the Hereford has brought the highest price in the English market and



Earl of Shadeland 22d, 27147
Champion Hereford of 1888

into America first occurred, so far as the records show, in 1817 when Henry Clay bought a herd and transported it to his Kentucky home.

Since that period the growth of the breed has been steady, although not marked, until twenty years when it has grown with such remarkable strides as to cause it to be imparted into every State in the Union where beef strains

its early maturity has made its "baby beef" famous all over the world.

At the great International stock show held at St. Louis, it took highest premiums for weight, and at the Chicago show the highest price was for a Hereford bull.

Distribution.

The geographical distribution of



are grown. It may be safely said that this breed has been brought to a higher state of improvement than any other beef breed in America, unless it be the Galloway.

Characteristics.

The characteristics which gave prominence to the Hereford were its remarkable strength of bone, which rendered it possible to distribute an enormous amount of fat on the body without injury to the animal. Its ability to live and thrive in a rigid climate where other breeds failed.

the Hereford is very extensive. From Herefordshire in Great Britain, it extends through Scotland, Ireland and Wales. In the province of Canada it has become the leading beef breed and in the cattle-producing sections of the South Atlantic States, as well as the Pacific States, it is extensively bred. The grazing qualities of the class render it most popular in level countries, and in latitudes where vicissitudes of climate exist it has greatest success.

Concluded on Page 480

The Galloway

THE Galloway is one of the newer introductions to California and as yet little known by most breeders.

It is a native of Southwestern Scotland, near the sea, and takes its name from the province or ancient Kingdom of Galloway. Its origin is obscure. Originally the breed in

Many Admirers.

I will give you a brief outline on what the Galloway cattle have done and are doing today.

At the leading shows and fairs of the country the Galloway has as many admirers as any other breed. The Galloway steer stood second to none in 1892 International. The



Galloway Bull, Charlie Strawbridge, 23816

By Imp. Scottish Standard, cost \$3,000. Dam, Juliette 2nd of Brookside. Property of G. W. Edwards, Goleta

that section—that is, in the middle of the eighteenth century—were horned. The polled strain were, apparently, bred up and later the horns disappeared.

The development of the modern Galloway was not fully taken up until about 1877. Just when the first introduction to America was made is unknown. Possibly about 1830-37.

Galloway won junior championship in 1900 in carload at the International at Chicago and sold in car lots at Kansas city at the Royal Cattle Show held there 1901, at \$1.40 higher per hundred than any other breed. The Galloways have won three of the Grand Champion prizes out of six offered at Chicago and Kansas city in 1900-1902-1903, as many as all other breeds combined.



In '53 they were first imported into Canada.

The first Galloway herdbook appeared in Scotland in 1878. The first breeders' association in this country was not formed till '82. There are now 27,000 registrations in this country.

John Troup, manager of the Geo. L. Edward's stock farm at Goleta, has furnished Cultivator readers the following as to the merits of this breed:

At the International carcass contest they won first and fourth. The former dressed out 68.88 per cent. The fourth prize dressed 68.08 per cent.

At the live stock exhibit at El Paso, Texas, in 1903, the Galloway heifer, Semiramis Jackson, was awarded grand champion over all other breeds.

Eighty head of foreign-bred Galloways recently selected from leading British herds, is now meeting with

Concluded on Page 482

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"Have You a Creamery?"
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*No stable is now well equipped without this incomparable liniment on the shelf. It has cured more blemishes and made more horses clean limbed than any other remedy in the world. It never fails to locate lameness.

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High Grade Stock of Best Strains.

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Orange Seed Bed Stock

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With the Citrus Growers

"DUTY OF WATER" IN IRRIGATION.

THE phrase "duty of water" has originated in the irrigation countries. By it is meant the amount of water (to be supplied by irrigation) required to mature a given crop.

This, of course, varies greatly with the humidity and temperature of the air and the temperature of the soil during the growing season, the character and conditions of the soil, the depth of water table below the surface, the contour of the land to be irrigated, the crop grown, the experience and knowledge of the irrigator, etc.

In a dry, hot climate the evaporation from the surface of the soil and transpiration from the leaves of the plants is great, consequently more water must be applied to make up for this loss. Here the tiller plays an important part in preventing to a certain extent the evaporation from the surface.

In a sandy soil the water will percolate down to the water table and pass off much more rapidly than in a clayey soil, hence more water is required than on a clayey soil to get the same growth.

When the water table is near the surface, sufficient moisture may be brought up by capillary to do away with irrigation, but when it is deep down much water is lost by percolation down to it that would otherwise be available for plant growth, writes Carlos Stannard, in Western World.

On a farm where the slopes are comparatively great, much more water is required to produce a given yield than on a more level land, as the water seeps into the subsoil and especially more rapidly.

Often this water, appearing further down the slope, makes irrigation unnecessary at the latter place. Even drainage is sometimes necessary.

The duty of water varies much with the crop and the length of the season. Thus the duty in acres per second foot (450 gallons per minute) for ninety days for alfalfa is, on an average, 102 acres; for potatoes, 488 acres; for barley, 138 acres; for oats, 126 acres; for wheat, 142 acres. Or the depth of water supplied by irrigation—alfalfa, 1.97 feet; potatoes, .56 feet; barley, 1.53 feet; oats, 1.73 feet; wheat, 1.62 feet.

The experience of the irrigator has much to do with the amount of water applied. One man will often apply a third or half more, or even twice as much water as another on the same crop and the same piece of land.

If the plot to be irrigated is at a distance from the main canal, there is more or less water, depending on the soil traversed, lost by seepage. In certain soils this becomes an important factor in the duty of water.

The understanding of the various phases of this subject means much more to the farmer who must irrigate than is generally supposed. It means all the difference between success and a meager living or failure in an irrigated section.

Mr. L. M. Wilcox, in his book on Irrigation Farming, says: "In Colorado water rights vested on a basis of the low duty assigned to water ten years ago have in instances deteriorated lands and reduced their productivity by a surfeit in application; while on adjoining lands, through an enforced economy, a higher duty, better conditions of the soil and greater productivity have resulted."

Green Manuring

Now is the time to plant crops for green manuring. The best crops for this purpose are Vetch, Canadian Field Peas and Fenugreek. For information and prices of the seed write to

Johnson & Musser Seed Company

113 No. Main St., Los Angeles

For Gardening, plant Onions, Lettuce, Spinach, Turnips, Beets, Radish, Carrots, Cauliflower and Cabbage.

Citrus Trees

For Season 1908

Valencia, Eureka Lemons, Thompson and Washington Navels, Grape Fruit

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Fumigating and Lemon Curing Tents our Specialties

Irrigating Hose, all sizes. Prices and Samples quoted upon application. Write your wants

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Phones—Home, F 4871; S. S. Main 3500
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BY

**AIR COMPRESSORS
CENTRIFUGAL and CYLINDER
PUMPS**

WRITE FOR 1908 CATALOGUE

FEDERAL GAS ENGINE CO.



704 Union Trust Bldg
Los Angeles

The Poland-China Hog

IT MAY be of interest to many breeders of Poland-China hogs to call their attention to the fact that the breed of swine known as Poland-Chinas is about seventy years old. It has not been known by that name that long. The name Poland-China was adopted by the National Swine Breeders' Convention, November 1872, and for thirty-five years this particular breed has been known by that name. This popular hog was bred for thirty-five years previous by a farmer in Malmi valley, Ohio.

It is well known to Poland-China breeders that there were many crosses in the first make-up of the present improved Poland-China hog, such as Byfield, Poland and Irish Grayhairs. They were of large size and coarse. The fancies and preferences of the late breeders dictated that the color as well as the shape and style should be improved.

Hence the careful breeders have produced an animal that is popular because of its symmetry and beauty; its easy feeding qualities, docility, its ability to return such enormous profits for the care and feed it consumes.

Careful mating has brought them out to be so perfect in shape and color, that many, very many, of them have brought prices at public sales as high as \$8000 each.

In looking up the public sales to take place, twenty-one in November, and the number of hogs averaging

fifty in each sale, the average price will not be less than \$75 each.

The price of pork hogs last week in Chicago was 6.25 and 6.50 with upward tendency.

California cannot half supply the demand, and why not? There is plenty of land that has ceased to be profitable for raising grain, that can be used for hog raising, and also enrich the land at the same time.

Number one hogs in California are now worth eight cents gross and a scarcity at that.

I have been raising recorded Poland-China hogs for twenty-five years, and they always paid good profits for care and feed. Get the best and start your herd; there is money in them. Attention and feed is what is required. Commence right by purchasing registered stock and good individuals, and feed right and you will make money.—P. H. Murphy, Perkins, Sacramento Co.

EIGHTH ANNUAL CONVENTION C. C. O. A.

The California Creamery Operators Association will meet in annual session this year at the university farm at Davisville, Nov. 22 and 23.

There will be five sessions and an exhibit of butter and cheese, for which prizes will be offered.

Davisville seems to be rapidly getting a reputation as a "convention center," at least as to farmers' meetings.

When writing advertisers, mention Cultivator.

TREES

Every One True to Name
Well developed, with strong, healthy roots

Fruit Ornamental

The Largest and Finest Stock on the Coast. All Sorts. Order Now

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All the leading Standard Varieties

Walnuts

Franquette (Vrooman Strain) and other leading French and California types in grafted and seedling trees

Grape Vines

On their own roots and grafted on Phylloxera Resistant Roots

Roses

Our stock is the finest we have ever grown and can be supplied in Bush and Tree Form.
Send for illustrated booklet, Burdett's New Creations. Valuable Illustrated Catalogue. Both sent free.

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Deciduous Fruit Culture

THE FOREIGN RAISIN CROP.

THE time has arrived when it is possible to give the condition and quantity of the foreign raisin and currant crop of the season.

The Spanish raisin crop is now secured and, like the California crop, has suffered no damage from rain. It is estimated at upwards of 67,000,000 pounds, which is a large crop. The crop is well cured and satisfactory in every way, excepting that the berries are rather small and choice fruit will, therefore, probably fetch good prices. Prices have opened very reasonably in London at about \$7 a hundred-weight (112 pounds,) in 28-pound boxes, duty paid, but a decline in price is expected, as lower prices are being quoted for October shipments. A fair quantity of Valencias had arrived in London by the middle of September.

The Greek currant crop is variously estimated from 138,000 to 150,000 long tons (2240 pounds,) but it will probably turn out about 140,000 tons. In recent years it has been:

	Tons.
1904.....	151,000
1905.....	160,500
1906.....	135,500

The market in Greece has opened very strong and is advancing. The quality generally speaking, is poor and below the average of last year, and shows unmistakable signs of rain damage.

The Smyrna-Sultana crop has suffered very severely from rain, and most of the fruit is discolored. The crop estimates have been reduced from about 50,000 long tons (2240 pounds) to 35,000 tons, and there has been a considerable advance in price in consequence. The market is in an unsettled state, and it is impossible to predict the future, as so far only small supplies have been shipped. The quantity of Sultanas imported into this country is not as large as is generally supposed. The totals during the last five years being:

Year.	Pounds.
1902.....	2,030,374
1903.....	3,055,398
1904.....	3,850,444
1905.....	1,685,275
1906.....	7,372,568

During the same period the currants imported have amounted to:

1902.....	36,238,976
1903.....	33,878,209
1904.....	28,247,649
1905.....	31,742,919
1906.....	37,078,311

—Geo. Robertson, in Fresno Republica.

HOW THE LACE-WINGED FLY FEEDS.

Mr. E. P. Taylor, field entomologist for the Western Slope Fruit Investigations, in Colorado, has reported the unusual abundance of the "Chrysopa," or Lace-winged fly, in the vicinity of Grand Junction the past summer, and its great service to the fruit growers in destroying the woolly aphid. It requires a large number of lice to supply a Chrysopa larva for one day, as it lives upon the blood of the lice only. Like some blood-eating animals of a higher order, these Chrysopa larvae are very active and quick in their movements. One who is not acquainted with the habits of this fly might think it strange that an insect with jaws could suck the blood of its victims, but such is the case with this strange insect. The

jaws are long, curved and very sharp and meet in front of the head. On the under side of the jaw is a groove into which fits a mouth-piece known to the entomologist as a maxilla. It is grooved along the upper surface and the two grooves so fit as to make a tube through which the body fluids of the lice are drawn into the mouth of our little friend, the Chrysopa. It is interesting to watch them feed. A plant louse or soft bodied insect, will be seized by the long mandibles, held up at "arms length," sucked dry in a moment or two and then the shriveled body is cast aside and another victim is seized and given a similar treatment. In this way a large number of plant lice are killed by one Chrysopa larva in a day. So it is really true that these insects possessed of jaws or mandibles derive all their food by suction and eat no solids. Because of their fondness for the blood of plant lice, the lace-winged flies are commonly known as Aphis Lions.—C. P. Gillette, Entomologist, State Agricultural College, Fort Collins, Colorado.

APPLE SCAB.

There is no fruit disease more familiar to the fruit grower than apple scab, sometimes called black spot. This disease is the result of a fungous growth which makes scabby spots on the fruit and also attacks the leaves and newly-grown shoots.

Sometimes the infection spreads very rapidly, beginning early in the spring. It dwarfs the young leaves, many times killing the foliage, causing the fruit to shrivel and in some instances the entire crop is ruined. Besides this, the disease works serious loss by dwarfing the apples that do mature. One statistician estimates that the loss in Missouri alone from this one disease is nearly \$500,000 per year.

It has been found that three applications of Bordeaux-arsenical mixture give the best results. The first application should be made just after the blossoms fall, the arsenical poison being used to destroy the codling moth. The second should be made about two weeks later, and a third about two weeks after the second. Some advise the first application to be just before the leaf buds open, and the experience of a number of fruit growers in the Ozark regions shows that this is the better practice.

DAVIS—DAVISVILLE.

The name of the town where the University Farm is located is to be changed. At present the postoffice is Davisville, and the railroad station is called Davis, but a movement is now on foot to change the name of the postoffice to that of Davis. The movement is headed by the university people who suffer great inconvenience because of the difference in name between the station and postoffice, and the likeness of Davisville to Danville. The townspeople are also petitioning the Postmaster-General for a change of the name of postoffice, and an early answer is expected.

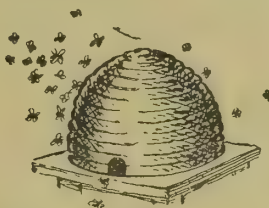
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The Ornamental Garden

THE FLOWER SHOW.

THE Southern California gave its regular autumn flower show last week. The attendance was not up to that of last year, though a most creditable exhibit was made.

Of course Queen Chrysanthemum ruled, though her sway was disputed by a magnificent line of carnations; also a showing of many new roses. The chrysanthemum show was hardly up to that made by Billy Marugg of Pomona, who made the most extensive display of fine bloom ever made in Los Angeles.

This society has given these shows, two each year, for several years and with only fair encouragement on the part of the flower-loving public. The exhibit should have drawn a greater attendance.

Although the tuberose is one of the most beautiful and fragrant flowers to be found anywhere, comparatively few are grown on our Western farms. Why this is so is hard to explain, for tuberose will flourish in any ordinary garden soil and require no more care than other varieties. The bulbs are cheap and are easily planted.

The new German butterfly bean deserves a place at every home. The beans are light brown and white, spotted and mottled; are produced in large pods and if taken off before fully ripe are a delicious vegetable. The plants begin to bloom early and blossom abundantly. The flowers appear in large clusters and surpass in beauty the old scarlet runner. It is a vine to please the eye as well as the palate.—Field and Farm.

The Guernsey

THE native home of the Guernsey is the Guernsey Island off the coast of France in the English Channel.

The entire population of the island aggregates only about 35,000 and the acreage of the island is only about 12,600 acres. Yet this breed has spread to nearly all parts of the world. It has been in America since 1824, and is today a great factor in the dairy industry.

The origin of the Guernsey, like that of the Jersey, is obscure. The purity of the breed is maintained by enactment of laws excluding any other breed for its island home.

California has secured some remarkable animals of this breed. Some three or four years ago this paper had a report of the year's performance of Maltie, 9184, then the property of W. M. March. That cow gave a yield of 11,681 pounds of milk of 5.07 per cent fat, or a total of 591.96 pounds of fat. That crowds up well towards 700 pounds of butter a year. That remarkable cow is now the property of El Rancho Saledad at Ravenna, as is Waller, 9561, another cow admitted the advanced registry. These with their offspring and others, are the foundation for a great herd, which the Messrs. Marble are raising up.

Another great herd on this Coast is that of the W. S. Ladel estate at Portland, Oregon. Three of that herd are in the advanced registry and more are being tested.

This little wealth producer will become better known in this State and become a greater favorite.

A friend of the breed says of it: May I call attention to the great progress that has been made by the Guernsey cow during the last few years? There are now 35,000 Guern-

ASPARAGUS OR LACE FERN.

This is the name often given to Asparagus plumosus. When the plants seem inclined to make one long vine rather than a bushy growth, nip out the center when the shoots attain the height of a foot or eighteen inches. Sprouts will then appear from the roots or nodes of the stem. If a plant fails to grow satisfactorily shift it into a larger pot, and add porous, fibrous loam for the new roots to penetrate. The great beauty of this exquisite foliage plant warrants all the care that can be bestowed upon it. It is really one of the most charming of foliage house plants, and should be one of the first chosen. It has no enemies; its culture is simple, and its propagation is readily effected by seeds, which come up with certainty after they have been in the ground for from three to four weeks.

The new double nasturtiums, scarlet with maroon markings and yellow with crimson markings, are popular wherever they are known. The flowers are double to the center, are of large size, of more substance than the single flowers and consequently more lasting. The vines are vigorous, bear handsome foliage and bloom freely and continuously. They do not bear seeds and the whole energy of the plant is used in the production of foliage and flowers. They are of the easiest culture and grow and bloom satisfactorily either in summer or winter. They do quite as well bedded in summer as the single varieties. They are grown only from cuttings.

sey registered and fully one-half of these have been placed in the Register during the last ten years. The breed stands in the front rank as producers of the highest grade of dairy products. In the Pan-American test the highest score for the ten breeds competing was awarded the Guernsey on natural color and flavor, as was also the highest aggregate score.

The American Guernsey Cattle Club was the first to establish an Advanced Register on a yearly basis. During the few years this has been established the records of 549 cows and young heifers have been followed. The average of these is a good index of the capability of the breed. These records show an average year's yield of 8000 pounds of milk, 407 pounds and 5.08 per cent butter fat.

During this time the highest records made have been 17,297 pounds of milk and 857 pounds of butter fat. The latter is equivalent to 1000 pounds of butter. The highest yearly records, made in connection with an Advanced Register of any breed in the world, are now held by the Guernseys.

To the private estate the Guernsey is pre-eminently suited. She is beautiful in appearance among velvety green lawns and pastures, and she is able to impart to her products in the midst of winter the high natural golden color and soft flavor of the June pasture. Though the demand for Guernseys has been great, they have not fallen into the hands of the speculative breeders. They are known and appreciated on more and more dairy farms, and the prospect for the future is bright.

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The Vegetable Garden

ASPARAGUS FROM THE SEED.

IN ANSWER to a correspondent, Professor W. P. Massey gives a practical advice in the Country Gentleman on growing asparagus from the seed.

To produce green shoots of asparagus that are cut at the surface of the ground after the shoots have attained the proper length, the roots must be nearer the surface than where the white shoots are desired. It has long been the practice to plant an asparagus plantation with one or two-year-old roots grown in a nursery. But I have long ago demonstrated in my own experience that this is a needless expense, and that good asparagus can be grown a year or two earlier by sowing the seed right where the plantation is to be, and never to disturb them by transplanting.

Asparagus demands very highly enriched soil, and no good crops can be grown without the most lavish manuring and fertilization. The best soil for the crop is a sandy loam underlain with clay. In the method I now wish to describe, furrows are made deeply four feet apart and six to eight inches deep. These furrows are to be filled with a compost of manure and woods earth that has been piled and turned for a month or two, making the compost two-thirds woods earth or black mold and one-third manure, preferably clear cow manure. Fill the furrows within three inches of the surface, and then with a garden seed

drill sow the seed in the furrows. Make this sowing early in the spring. As the seeds germinate, work the soil gradually to the plants till perfectly level, and as soon as the plants are well established thin out to about two feet in the row. The young plants thus thinned out can be at once transplanted as easily as cabbage plants to other rows prepared as the first and at the same distance apart.

Cultivate during the summer thoroughly, and during the early summer growth scatter alongside the rows about 150 pounds of nitrate of soda per acre. In the fall give the plantation a dressing of kainit at the rate of 500 pounds per acre. The salt in the kainit will tend to keep down weeds, and will have a tendency to dissolve plant food in the soil through the winter, and the potash will materially aid the growth the following spring.

Treated in this way I have cut fairly good asparagus the spring after sowing the seed. But little cutting should then be done, and the plantation should in early spring have a dressing of not less than 1000 pounds per acre broadcast of the following mixture: Acid phosphate, 900 pounds; fish scrap or cottonseed meal, 600 pounds; nitrate of soda, 100 pounds; muriate of potash, 400 pounds. A ton of fertilizer made in this way will be a good standard, high-grade fertilizer for almost any vegetable crop. The plants grown in this way will have their roots near the surface, and will feel the first warmth of the spring sun, and will be earlier than the plants grown in the old way for white-stalked asparagus.

To grow white-stemmed asparagus, prepare furrows as directed for the above method, only make them fully a foot deep. Place in the bottom a good layer of the prepared compost.

On this set either one-year-old roots or the young plants thinned from the spring sowing. As they start to grow, work the soil gradually to the rows in the cultivation till the land is level, always keeping the plant tops well above the soil. Give these also a good dressing of nitrate of soda during their early growth to encourage a rapid growth. In the late summer and fall, work furrows to the rows so that the plants will stand on elevated beds with the roots well down in the soil. In early spring or late winter apply the fertilizer advised before, and give clean cultivation through the summer. The fertilization in either method must be an annual thing, and the application of kainit liberal in the fall.

The second spring cutting may begin in a moderate way. The rows should be well banked up as soon as the tips of the shoots appear. The stalks are cut by pulling the earth from them and cutting well down with a knife made for the purpose. If the stalks are cut before the tips turn green at all, the white stalks will be comparatively tender; but if the stalks shoot above the ground and get green, the part that is white underground will be tough and stringy. These white stalks make a pretty appearance in the bunches, but market buyers are more and more disposed to buy the more tender and green stalks.

GARDENING NEAR TREES.

Gardening in an arid or even a semi-arid region is a problem that the man from Missouri and kindred countries have to be shown. In the first place, nine out of ten who have a small home garden water too often and not enough at a time. Then the home garden plot is nearly always underlaid with roots from nearby trees. Where this is the case, it is all but impossible to accomplish satisfactory results, except in the case of deciduous trees, where such vegetables as lettuce, turnips, beets, cabbages and other similar hardy vegetables will do nicely if put in the fall.

Lettuce will reseed itself and appear year after year with little or no trouble to the rancher, leaving a few of the choicest head to go to seed and let the winds scatter it about is all that is necessary. They will appear after the first rains in the fall. But as the home garden is always rather small the loss of moisture by capillary attraction in a lateral direction is rather large and great care must be taken to keep the outer edges wet for successful summer gardening.

It is absolutely necessary that tree roots should not interfere. It is useless to plant closer than twenty feet to trees six years old and as old trees often have roots seventy-five to a hundred feet in a lateral direction, we need not look far for the cause of the garden not doing nicely. Of course, where there is damp land which is fertile enough, trees interfere with summer gardening only by making too much shade.—J. C. Ostergard.

"I think," said the prison visitor, "it would be helpful to you if you would take some good motto and try to live up to it."

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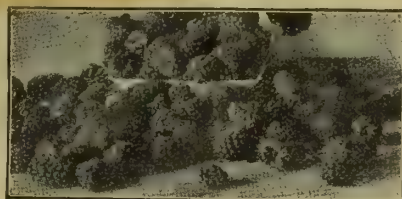
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GUARANTEED ANALYSIS:

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FERN PARK POULTRY RANCH

EGGS FOR HATCHING

All Eggs are from good, strong vigorous stock.



WYATT & WOLLITZ, Proprietors

—Breeders of—

Single Comb Buff Orpingtons
White Rocks and
Indian Runner Ducks

Orpington and Rocks \$2 per setting; \$6 per 100.
Duck Eggs \$1.50 per 12.

Write your wants. Correspondence carefully answered.

Box 298.

WYATT & WOLLITZ, Corona, Cal.

Beef, Blood and Bone Will Make Your Hens Lay

This is not a medicine but a high grade nitrogenous food. Write for free booklet "How to make Hens Lay." Our Poultry Foods are sold by all local dealers and manufactured solely by

The Pacific Guano and Fertilizer Co., Indiana and Yolo Sts., San Francisco, Cal.

Also Pioneer Manufacturers of High Grade Fertilizers.
Write for our free booklet, "Farmer's Friend." Valuable to all farmers and ranchers.

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experiences with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

GETTING READY FOR THE SHOW.

NOVEMBER practically opens the show campaign. Many of our readers will no doubt show this season for the first time. Therefore we feel that an article on care and conditioning birds for the show will be appreciated.

At most of the shows, competition is so keen that to win, one's birds must be in perfect condition. This can only be done by careful selection, condition and feeding.

Selecting show birds.

Before we attempt to select our show birds, we should have a good knowledge of the Standard and know just what we want to cull out. Then we should go over our birds and throw out all that are disqualified. Don't put a bird in the show that is disqualified and then blame the judge for throwing it out of the class. Next put out all undersized birds, or birds that do not weigh within one to two pounds of the standard weight for two pounds is about as much as can be put on a bird in three or four weeks. This will leave you birds whose imperfections will only be cut by the judge.

Cooping and Training.

Cooping and training the birds is a very necessary part of the preparation, for a bird that is wild and frightened will stand in awkward and ungainly positions, and stands no chance with a bird that has been handled and trained.

It is not necessary to keep them cooped all the time, in fact you can get them in better condition by cooping half the time and letting them have their freedom the other half in nice, clean, shady runs. Put them in the coop at night and handle them a little while in the morning, then feed them a little meat or bread or something that they like, in this way it is easy to get them used to being handled.

Keep plenty of nice, clean straw in the coops, throw whole grain in this and let them scratch for it, this will give them exercise and at the same time will polish their legs and make them look bright and clean.

Dust them well with a good lice powder and get them free from vermin. In making up pens for exhibitions, pick birds that match as nearly as possible, getting them all of one size, with combs about the same. Don't select one with a small comb and then one with a large one as such things always mar the appearance and make the weak points more noticeable.

We will not give directions for washing as we published an excellent article on this in the issue of October 17.

POULTRY ON FRUIT FARMS.

California orchardists are awakening to the importance of combined fruit and poultry culture. In addition to the valuable service rendered in ridding the orchard of insects the fowls are a never-failing source of revenue. Poultry distributed throughout an orchard on the colony plan thrive well and yield a large income in proportion to the expense. The busy hen offers a product which always commands "ready cash."

AROUND THE YARDS.

Breed only from the best.

"Doubtful" eggs should be kept at home.

Poultry properly handled is a source of profit.

Neatness counts wonderfully in making sales.

A long continued single diet will induce indigestion.

Constipation is caused by too much concentrated food.

The yolk of the egg spoils much quicker than the white.

The object in caponizing is to secure both quality and size.

Too much buckwheat has a tendency to produce costiveness.

"Pure food" eggs are not made by access to manure piles.

An eastern duck raiser used large quantities of green onions, cut up acorns, wild plums, cherries, grapes and elderberries. To these he added grit, a little tincture of iron in drinking water, and all the minnows and shiners he could secure. His ducks were equal to the Maryland canvassbacks, which feed on wild celery, etc., and his stock was in great demand for the dinners of exclusive clubs.

When fowls have a "bad cold" at once the cry is "roup;" should they have distemper, it is called roup; should diphtheria present it, it is termed roup, and so on. In short, should there be exhibited external symptoms of internal inflammation or any ailment of throat, mouth or nostrils, it is charged up to roup. Nevertheless, it is rarely the case that a fowl is any good after a spell of sickness, no matter what that sickness may be. Preventives should receive more attention than they do. Comfort, sound food, and disinfection, are the mainstay of the poultry business in a sanitary sense.—Up-to-Date Farmer.

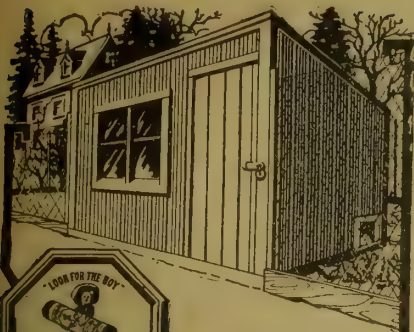
METHOD OF FEEDING.

Fowls should be fed from troughs and not have the mash thrown on the ground. There are several varieties of troughs which are good. They should be so made that they can be easily filled and cleaned and at the same time do not allow the hens to get their feet inside.

WATER.

There are several styles of water founts, and the most objectionable are those which are so constructed that it is not possible to see the inside, and as a result they are often allowed to become filthy.

One of the best materials that a poultryman can use for supplying the required lime for the egg shells is oyster shell or any other variety of shell. One pound of oyster shell contain sufficient lime for the shells of about seven dozen eggs. Shells are not the only source of lime necessary for egg shells. Bones also contain a large percentage of lime



Your Poultry Profit

can be kept up right through the winter if you feed your hens right and keep them warm. Our book, "Making Poultry Pay," tells how to feed them. The way to keep them warm is to roof and side your poultry houses with

REX FLINTKOTE ROOFING

It is absolutely water-proof and wind-tight. It is non-conducting and keeps a poultry house warmer in winter and cooler in summer. It will resist fire. It is easy to put on. It will last for years—cheaper in the long run than the cheapest you can buy. Be sure you "Look for the Boy."

OUR FREE SAMPLES

will convince you. Send for them and our booklet on roofing; also 4 cents in stamps for our book, "Making Poultry Pay."

J. A. & W. BIRD & CO.
89 India Street, Boston, Mass.
Pacific Coast Agents: W. P. Fuller & Co., San Francisco, Sacramento, Oakland, Stockton, Los Angeles, San Diego, Portland, Seattle, Tacoma, Spokane.

Spargur's Trap-Nested White Leghorns

Laying Pullets six and seven months old from above hens, at \$15.00 per dozen. Also I. R. Ducks and Drakes at \$9.00 per dozen.

H. G. Spargur, Soquel, Cal.

Newbert's White Leghorns

Are the best in the State. I proved it at the last State Fair, winning four of the five firsts from the best breeders in the State. Hatching Eggs, \$6 per hundred, \$1.50 and \$2.00 per setting.

F. M. Newbert - Palmetto Heights
Sacramento, Cal.

BARRED ROCKS

EXCLUSIVELY

Send for Sixteen-Page 1906 Catalogue

H. R. CAMPBELL
BOX 0 PETALUMA, CAL.

Baldwin's White Leghorns

First prizes San Jose '06, and State Fair '07. Fine youngsters at reasonable rates. Good older stock cheap to make room. Full description of stock and price list mailed free on application.

Frank E. Baldwin

46 Washington Ave. - San Jose, Cal.

I Don't Want Them Do You?

Mann's Clover Cutter, Daisy Green-Bone Cutter, Wire Fence Machine—weaves fence, any height up to 60 in. and any sized mesh from 1 to 12 in. All of the above are in perfect order and will be sold at a bargain.

W. W. BLISS, Duarte, Cal.

WHITE AND BUFF WYANDOTTES

And Golden Sebright Bantams, prize winners Stock and Eggs in season

M. E. Dillingham, Box 67 San Gabriel, Cal

WHITE WYANDOTTES EXCLUSIVELY

Good, White, Typical Birds. Stock and Eggs For Sale.

W. A. SEYMOUR

470 No. Beaudry Ave. Los Angeles, Cal.

Poultry Show Dates

Oakland, Cal., Nov. 21, 22, 23 and 24, 1907.—Annual exhibition of California Pigeon Club at Iodora Park. Wm. F. Frost, show secretary, 1070 Broadway, Oakland.

Oakland, Cal., Dec. 2-8, 1907.—Fourth Annual Exhibition of the Alameda County Poultry Association. C. G. Hinds, secretary, Alameda, Cal.

Los Angeles, Cal., December 5-14, 1907.—The Nineteenth Annual Poultry and Pigeon Show of the Los Angeles County Poultry Association Corporation. Comparison judging W. L. Sly, Hollywood, president; C. D. Hubbard, secretary, San Fernando.

Fresno, Cal., Dec. 11-14, 1907.—Tenth Annual Exhibition Fresno Poultry, Pigeon and Pet Stock Association. George R. Andrews, secretary, Fresno, Cal.

San Diego, Cal., Dec. 17-21, 1907.—Sixth Annual Poultry and Pigeon Show of the San Diego County Poultry Association. George I. Badger, secretary, San Diego, Cal.

Los Angeles, at Chutes Park, Jan. 3-12, 1908.—Second Annual Exhibition Breeders' Association of Southern California. Dr. Winslow, president; H. A. Meserve, secretary. Birds will be received January 1st. Judged by score card and awards read before public is admitted Monday, January 6th.

HOW TO GET WINTER EGGS.

Those who want winter eggs and have not already commenced to feed with that end in view will have to hustle.

In the first place, if your yearling hens have not moulted, shut them up in a small, clean pen, about 100x15 feet for fifty hens, and feed them about one quart of oats once a day, with plenty of fresh water and sharp grit for ten days or two weeks. By that time they will be poor and thin. Then let them out and feed them a good strong ration composed of 32 parts corn meal, 30 parts meat meal, 30 parts ground clover or alfalfa, this to be constantly on hand in a feed hopper; then in addition feed in deep litter 200 lb. cracked corn, 360 lb. wheat, and 130 lb. oats.

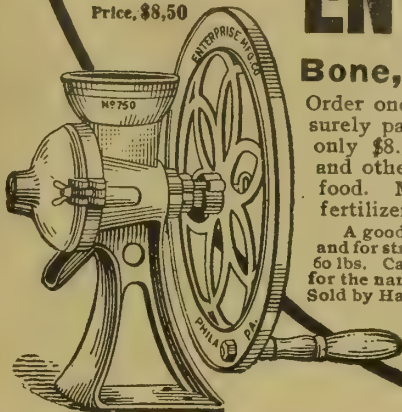
Early in the morning the grain is fed at the rate of a quart to 25 fowls; about eleven the same amount may be fed again to induce exercise. The hopper is always kept filled and a smaller one is kept supplied with grit, charcoal and oyster shells. Keep the houses clean and the floor deep with litter and the birds will soon be singing about with red combs.

For those who do not like the dry feed method an excellent mash can be made in the following way: In the morning chop a barn pail full of clover, cut in quarter-inch length, and over this pour boiling water until the clover is covered; then cover

More Eggs—More Money

The increased production of eggs from a very small flock of poultry will soon pay for an Enterprise Bone, Shell and Corn Mill. Cracked corn, ground bone, oyster and other shells, etc., are important items of egg-making material and must be furnished in winter to secure an abundance of high-priced eggs. They can be furnished at lowest cost by the use of an

No. 750
Price, \$8.50



ENTERPRISE

Bone, Shell and Corn Mill

Order one early in the season, and the hens will surely pay for it. The mill shown in cut costs only \$8.50. Will grind corn, dry bones, oyster and other shells, etc., making valuable poultry food. May be used for making bone meal fertilizer.

A good all-round mill for farmers and poultrymen, and for strength and durability is unexcelled. Weight 60 lbs. Capacity, 1½ bushels of corn per hour. Look for the name "Enterprise" on the machine you buy. Sold by Hardware and General Stores, etc.

THE ENTERPRISE MFG. CO. OF PA.,
240 Dauphin St.,
Philadelphia, Pa.

50 Cent Eggs

You may feed grains alone until doomsday and you will never get many of them. You must supplement grains with some highly nitrogenous food, rich in protein, to keep the hen in good health, build up her system and furnish her with the material for making eggs.

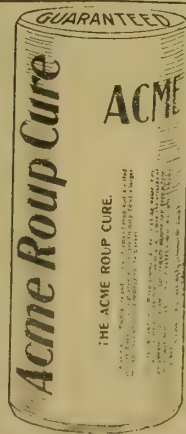
Egg-More

is just this and nothing else. It is not a strong tonic and stimulant, but contains enough condiments to give the food relish and keep the fowls in fine fettle. Just a little fed daily with good grains, or even with bran will do it. It can be fed either dry or as a mash. The hens like it, they eat it, there is no waste. It makes the very cheapest Egg Food, especially if you can buy your grains at home cheaper than to ship them in. The cost is but a very small per cent of the increased egg production. 4-lb. package, 35 cents; 25-lb. pail, \$2.00; 50-lb. sack, \$3.75. If your dealer doesn't keep it, we will deliver a pail or sack freight prepaid by us.

West Coast Stock Food Co.

818 San Fernando St. (Through to Alameda) Los Angeles, Cal.

LARGEST POULTRY SUPPLIES HOUSE IN THE UNITED STATES



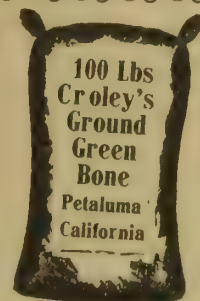
Acme Roup Cure

Cures Roup and Colds

How? It's dead easy. Just place the medicine in the water, the fowls drink, and before you know it the fowls are cured.

50c and \$1.00 per Tube, Postpaid

Henry Albers Co. 534 So. Main St.
Los Angeles



Are You Using It? If Not, Try a Sample Sack

We believe this Green Bone is as good or better than beef scraps costing much more. But the better way is to try it and convince yourself.

Price, \$2.50 per 100-lb. Sack

George H. Croley
Sole Manufacturer

901-905 Washington St.

Petaluma, Cal.

SHADE'S RHODE ISLAND REDS

The World's best layers. Our folder for '07 is ready. Drop a postal to

J. W. Shade

San Bernardino, Cal.

White Wyandottes (Hubbard Stock)

Egg, \$2.00 per setting, \$10.00 per hundred March Cockerels For Sale

Cannon Poultry Co. 2851 Morgan Ave.
Los Angeles, California

Excelsior Egg Food

Is an Egg Producer and a Money Maker. It keeps poultry in most healthy condition.

EXCELSIOR

None Others So Good

No others "just the same." Insist on **Excelsior** or write to us direct. Mention Cultivator.

Excelsior Chick Food

Is balanced exactly right to make Chicks grow and thrive. It will raise 98% of your Chicks. Give it a trial with your next brood.

Excelsior Cereal Milling Co.

242 Central Ave.
Los Angeles, Cal

Poultry Supplies

We have been glad to Get Acquainted with so many poultrymen these last two weeks. Our Get Acquainted sale closes Nov. 16th, 10 P. M. After that our regular prices will be as low as the lowest and our goods as good as the goodest. We hope you will continue to come and see us. Don't forget that the

Improved Pacific Incubators

are as good as can be made. Also PACIFIC COMBINATION BROODER. And they are priced right, too. We also make the "BUSINESS" Incubators and Brooders. Just for business and they do it every time. Very low prices for these.

Pacific Incubator Co.

707 So. Spring St. Los Angeles, Cal.

Maltese Hen Pigeons

Runts—All colors, Blue, Silver, Red, Yellow. Write your Wants. Correspondence a pleasure. Satisfaction guaranteed.

W. H. Elliot

728 N. Ave 66

Los Angeles, Cal.

White Wyandotte Eggs For Hatching

All my hens are tested layers. Prize-winning, large egg laying strain. Come and see my exhibit at the Los Angeles County Poultry Association, December 5 to 14, '07, 415 to 419 S. Hill Street, Los Angeles. **Mammoth Bronze Turkeys**

Mrs. C. D. Hubbard, Box 282, San Fernando, Cal.

with an old bag and allow it to steam until time to feed for supper. Now mix 100 lb. of bran, 100 lb. corn meal, 100 lb. wheat middlings, 100 lb. linseed meal and 100 lb. meat meal. Of course this may be mixed in smaller quantities, but in the same proportion. About three o'clock put into tin buckets about four quarts each of the meal mixture, then stir in enough clover to make a nice crumbly mash in each bucket. This will be about enough for a hundred hens, but do not feed more than they will clean up in 10 minutes. Some prefer to feed the mash at noon; that is a question that each poultry man can settle best for himself. The question of the number of times a day fowls should be fed can only be settled by experimenting. With the dry feed method the fowls are given a little grain, as I have said, early in the morning and about eleven. Green food is supplied in the shape of mangels or clover. A good many successful men feed three times, while others, who are quite as successful, feed only twice.—Country Gentleman.

ANIMAL INDUSTRY WORK AT THE UNIVERSITY FARM.

Continued from Page 463

intelligently continue and improve on the work that has been begun. One man may be given the best animals, may have a good farm and good buildings and yet, in a few years his stock will deteriorate very much and become unprofitable. Another may have much poorer animals and buildings and yet be making a profit. The difference lies in the lack of knowledge—knowledge of the care and management and of feeding of live stock. Experiment stations have shown how the common cow, in the hands of the farmer, producing about 140 pounds of milk per day may be taken and, by proper attention to the feeding and handling, be made to produce as high as 250 pounds per year. These subjects, therefore, will be given great attention and the student will be taught how to feed so as to provide the nutrients animals require for each line of work.

The work with horses is exceedingly important. Despite the opinion frequently expressed that this is an automobile age and soon there will be no use for the horse, we find there is today, a greater demand and higher prices secured for good individuals. This is true, not only in California where it might be said that conditions

are such as to cause an unusual demand for work horses, but it is true also of all of the great horse markets in the middle west and in the east. There is no doubt that buyers today are more discriminating than they were. This means that the breeder must study the demands of the market and provide a better animal than heretofore.

Students in animal industry will be given constant practice in judging horses; determining their age, their condition as regards soundness and their value in the different market classes. They will be taught how to select a stallion of the right type, to know that he is of the right conformation and free from blemishes. Naturally the most attention will be given to draft horses. This is necessary because the amount of money available for our use will not allow of our securing an equipment of all the breeds.

Work of instruction, however, is not the only use to which the University Farm will be put. Investigations is an important part of the work of the college and there are a large number of problems that must be studied as soon as the buildings and equipment are provided. California conditions, soil and climate, differ so much from conditions that prevail in other States that we have a number of problems that are peculiarly our own.

The live stock men of this State have taken such a great interest in securing the farm, it is most appropriate that the University should decide that the first buildings erected should be for the work in animal industry. A creamery building and live stock pavilion are now ready for use. It is only necessary, therefore for the live stock people of the State to show their continued interest in the farm and work by availing themselves of the opportunities these will afford.—E. W. Major, professor of animal industry, University of California.

THE HEREFORD.

Continued from Page 472

It does best in cold countries, although in medium sections it thrives. From Bakersfield north through California, except in the very interior counties, where hot weather obtains for an extended period, it would do well, while in Oregon and Washington growers would find the Hereford ideal cattle.

For Large Ranges.

We could not recommend the breed to small farmers, for wide range is necessary to its greatest success, although in the Eastern States and especially in Maine, Herefords have long been very popular. Oxen of this breed are used today on the hills of New England and are preferable to horses, because of their blocky build and extreme strength.

The writer has been breeding "Whitefaces" for a number of years in Iowa, and although his farm is small, has found the industry pleasant and lucrative. Ready sale is found for all pure blood males, and cows have brought high prices. We do not draw any invidious comparisons between the Hereford and other breeds, but experience teaches us that no breed of beef cattle has excelled it in the local and foreign markets.—J. J. S.

Your Poultry Require

LILLY'S BEST POULTRY TONIC

Strengthens the digestive organs, tones up the system, stimulates growth, purifies the blood and greatly increases the production of eggs.

After trial of your Poultry Tonic my egg yield doubled in number, and am so well pleased that I have ordered my grocer to keep it on hand always for me. I deem it indispensable. GEO. VENABLE SMITH, Manager Orpington Poultry Yards, Port Angeles, Wn. CHAS. H. LILLY CO., Seattle, Portland, San Francisco. Sold by Dealers

COUPON FREE Book on Poultry Profits

Cut Out, Sign and Mail This, and by return mail you will receive our great Free Book, telling How 140,000 Men and Women are Making Money with the Famous Sure Hatch. Book is full of valuable help to beginners and professional poultry raisers. Tells why the Sure Hatch exceeds all other incubators. We ship Sure Hatch on Unlimited Trial direct to you from Los Angeles or Salt Lake City. Don't delay—fill out and mail coupon NOW.

SURE HATCH INCUBATOR CO.
Box 150, Fremont, Neb., or Dept. 150, Indianapolis, Ind.

Send book to (write plainly)

Name _____

Address _____



Bred to Lay and Win
Buff, Black, White

ORPINGTONS

Free Catalogue
P. L. Harley
Bx. C. Redlands, Cal.



Black Minorcas
Exclusively

Show Record at Los Angeles, January, 1907, 5 first prizes, 4 Seconds, 4 thirds, 3 fourths, 3 fifths. Also two Silver Cups. They will make money for you. Stock and eggs for sale. Catalogue free.

H. A. Wheeler
Box 123, Lordsburg, Cal.
Successors to Perham & Wheeler

Do You want the Breed That Lays

the year around and brings \$1.00 each when sold to market? Our BUFF ORPINGTONS are that kind. Write for show record never equalled on the West Coast.

A COMING FAVORITE.

Continued from Page 467

he been healthy when he was shipped.

A Toggenburg.

About the middle of last December I purchased in Denver and kept for my own use, a fine mature Toggenburg doe. Six weeks later she dropped two fine large kids which I at once separated from the mother and raised on the bottle using regular infant nipples. I had no trouble in getting them started on bottle and after the first week or two I gave them mostly separated cow's milk, feeding them three times a day. They developed very rapidly. This doe also seemed to adapt herself readily to the new climate and conditions and started off with four quarts of milk per day, her weight being only 96 pounds. She proved herself a very regular and uniform milker. Her present owner writes that she was still giving full three quarts per day seven months after kidding.

This goat was kept on chain on vacant lot adjoining my place during the day and under shelter at night during the winter and spring; was fed crushed barley and oat and alfalfa hay in addition to what little grass she picked.

Cleanly Habits.

I find that a well fed goat is very cleanly about what she eats and will not readily eat any tainted or soiled food. She is also careful about lying down where she might soil herself preferring, if allowed the chance, to lie on a box or in the manger. She is also prohibited by nature from switching dirt into the pail with her tail while you are milking.

In fact, you may safely inform those of your readers who are prejudiced against the goat, just because she is a goat, that with the same amount of care they will get much cleaner milk from the goat than from a cow. I could not detect any great difference, except that it is probably sweeter in the flavor or odor of the goat's milk, when fresh, from good cow's milk. There seemed to be a more distinct flavor, though nothing objectionable after it had stood for some time. But since the cream does not readily separate from the goat's milk, unless it is scalded soon after it is drawn, there is little necessity for keeping it.

That goat's milk is a most valuable food for infants and persons with weak stomachs is the verdict of almost every one who has given it a fair trial, and I could cite some strong cases to prove this, but this article is already too long so must close.—James H. Hester, V. S., Santa Barbara.

POSSIBILITIES FOR LIVE STOCK

Continued from First Page

breeds of the mutton class will increase and the wool and mutton bring in more to this State than it does today.

Goats.

Goats will increase in popularity. The Angoras already have a strong hold with many who have found them profitable.

The latest favorite, which is creating great interest, is the milch goat. With the large number of sanitariums located in the State, and the

"ROCKY MOUNTAIN CANARIES."

We don't know as there is great money for Californians in breeding the ever patient and faithful burro, but here is a suggestion from the Denver Field and Farm:

It does beat the Dutch how the call for Rocky Mountain canaries has put the dealers on the run this spring. Within the past sixty days we have had quite a number of inquiries from Eastern resort keepers asking us to find them burros in carload lots and the job has not been such an easy one by a long shot. One big publishing house in Ohio writes us that they want from ten to twenty carloads of sunset warblers for premium purposes and we do not know where to turn to find them. A good many people have evidently overlooked the breeding of the tenderfoot's pride for the Eastern people have suddenly awakened to the utility of this patient little beast of burden as a pleasing curiosity, and

**A Hungarian Pony**

the folks down East are always crazy over anything that may look like a curio. So far as we are concerned they can have all our long-eared donkeys for since the prospecting business went out of style and the wood has disappeared from the mountains we have very little use for them except at a few resorts where the visiting tenderfoots love to linger, and of these Manitou is the most iridescent specimen.

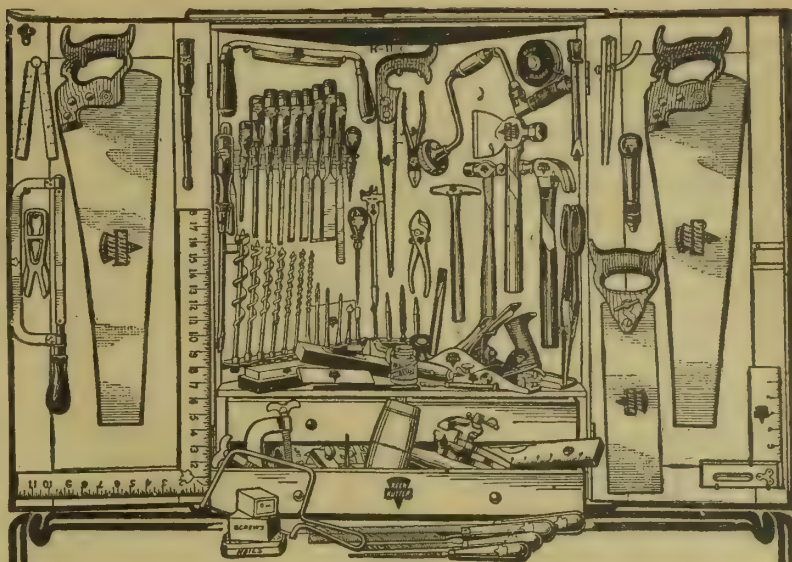
BUTTER AND SUBSTITUTES.

From a circular issued by Pennsylvania dairymen, we quote:

The total value of dairy products in the United States, in the year 1899, according to the last U. S. Census Report, was \$506,663,289. To properly safeguard an interest so important to the farmers of our country, it is absolutely necessary that the national laws which deal with the manufacture and sale of oleomargarine, butterine, renovated or process butter and adulterated butter shall be radically and speedily changed.

Farmers, dairymen and others interested in pure butter must endeavor to obtain remedial national legislation in order that the manufacturers and dealers who handle oleomargarine and other butter substitutes shall discontinue to market these products as pure butter, which it seems has been customary for many years, on account of flaws in the national statutes that were erroneously believed to properly control the manufacture and sale of these commodities.

It is important that all who are concerned in the prosperity of the dairy interests shall, without delay, appeal to the President of the United States, the United States senators and members of Congress to remedy defects of the national laws. The changes must be made if the most

**The Home Tool Kit**

When you want a hammer or a hatchet or any tool for any work, you know and everyone knows that the right way to be sure of satisfaction is to order Keen Kutter tools.

But when you want a complete set of tools, instead of buying one tool at a time and never having the right tool when you want it, order one of the

KEEN KUTTER TOOL CABINETS

Every tool has its own place in the cabinet and every tool belongs to the famous Keen Kutter brand, which means they are the best you can buy and that they are guaranteed perfect. Keen Kutter Tool Cabinets are made in various styles and sizes at prices ranging from \$8.50 to \$85.00. If not at your dealer's, write us.

SIMMONS HARDWARE COMPANY (Inc.),
St. Louis and New York U.S.A.

Pioneer**Rubber Sanded ROOFING**

Always a permanent protection against rain and sun. Spark and cinder proof—does not curl, warp or crack.

Easiest to lay and when once laid is down to stay.

That wear-proof surface of hard flint sand—adds years and years of wear—eliminates the repair bill and requires no painting at any time.

Best for every roof.

Samples, prices and booklet sent free.

Let us put you in touch with
our Agent in your locality.

Pioneer ROLL PAPER CO.
LOS ANGELES

Olds Gas Engines


The best Gas and Distillate Engine
on the market. Sold by

Harrison Machine Works

Which make a specialty of all kinds
of Repairs and Machinery Work

717 21 No. Main St. Los Angeles, Cal.

Pioneer Hatchery Chicks



Largest baby chick dealers in the world.
Send to-day for prices. All varieties.
Owned and operated by
D. E. Doke & E. E. McClanahan
711 So. Main St., Los Angeles, Cal.

MORE FRUIT WITH LESS LABOR



You can positively insure a larger crop, clean fruit and healthy trees at a saving of fully one-third the labor ordinarily required and with a much less outlay of time and money by using a **Bean Magic Spray Pump**. The reason is because it sprays thoroughly with high, even pressure, but the operator is working against only one-half the pressure indicated on the gauge. It's on account of the spring which makes the Magic Spray Pump the easiest running, most perfect spray pump ever made. No other pump can compete with it in the essential points of quality and durability, and we challenge comparison with all other makes regardless of price or construction.

Bean Magic Spray Pumps

are the result of careful study and experience in pump manufacture. We have no other line. We are specialists in pump-making, and the name **BEAN** on a spray pump or appliance is a guarantee that it is the best that money and brains can produce.

The most successful raisers of fancy fruit agree that spraying is the only and most effective method of securing the best results. The increase in profit from securing fancy fruit will alone soon pay for the outfit. Whether you have a large or small orchard you cannot afford to be without a Bean Magic Pump.

We have samples of these Pumps in stock, and will be pleased to show them to you.

Bean Spray & Pump Co.
161 West Santa Clara St., San Jose, Cal.

George B. Warner's Orange County Nurseries

Established 1889

Grower and Dealer in Citrus and Deciduous Trees of all standard varieties

Soft Shell Walnut Trees, 1, 2 and 3 years old. Grafted Placencia on Native Black Walnut Root. Street and Ornamental Trees, Palms, Dracaenas, Blue, Red and Sugar Gums (large stock.) Write for prices.

Sales Yard—Corner Sixth and Main
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Santa Ana, California Phone—S. S. Red 92

Fruit Trees

Thousands of dollars saved by farmers by patronizing us. 50,000 Lob Ingir Smyrna Fig trees, 4 to 6 ft. in lots of 100 at \$12.50; 500 and up at \$100.00 per 1000.

We won the Gold Medal at the Lewis & Clark Exposition. This is the world famed Fig of commerce.

We have a large stock of Bartlett Pears, Royal Apricots, Orange and Lemon trees, as well as other nursery stock.

Best rock prices. Send in list of wants. Address

Maywood Colony Nursery, Corning, Cal.
W. Herbert Samson, Prop.

Show Me the Man



That likes to know that his wife chopped the wood that cooked his supper because he forgot it, or that she or some one must clean the lamps. She is the best wife you will ever have. Now have the best

Acetylene Gas Machine

and make "you all" happy. We have it and guarantee it. You need it. Write right now.

20th Century Light Co.
609 E. Seventh St., Los Angeles, Cal.

WITH A SEIVERT OIL BURNER

You can burn 100,000 feet of air with every 120 gallons of oil; this means perfect combustion. To burn more than 100,000 cubic feet of air with 120 gallons of oil, there is a decided loss of heat. To burn less than 100,000 cubic feet of air there is a loss of fuel. The only safe and reliable burner on the market. Send for full particulars.

SIEVERT OIL BURNER CO. 1061 No. Alameda St., Cor. Main and Ord Sts., Los Angeles, Cal.

California Horticulturally

PROSPECTIVE PLANTINGS.

FROM all present appearances there will be very heavy plantings of table grapes and peaches in the northern counties this coming season. Nurserymen report that they have greater orders for these two fruits than for any others, and almost than all others combined. Table grapes, especially Tokays, have paid enormous returns for the past three years and there is still an increasing demand for them in the Eastern market. The question of overproduction is somewhat raised, but while there is a limited area upon which the best table grapes can be grown and an unlimited demand from the whole country for them, there is little danger of overproduction. California produces the best table grapes; the choicest of these are the product of a comparatively small part of the State. The United States now has close upon 100,000,000 people, and they all like grapes. The question is not, therefore, one of overproduction, but whether we can supply the constantly growing demand. The whole country from Lodi to Sacramento is gradually being converted into one vast vineyard, the greater part of it table grapes, and those who have them for sale have been making money, as much as \$300 per acre net in many cases.

Peaches have also commanded big prices for several years, this year

ranging from \$35 for frees to \$60 for clings, and those who had this fruit have got a good bank account. It is true that the shortage in this crop had some bearing on prices, but for all that the prices have been high and will probably remain good for most of the time to come. The crop of early peaches in the upper country was very light, but the late fruit turned out better. It is this demand, with the big prices, which have given such an impetus to the planting of grapes and peaches this year, coupled with the probability that there will always be a good demand for them.

THE FRUIT GROWERS' CONVENTION.

The people of Marysville are taking hold of the work connected with the next Fruit Growers' Convention with a zeal that promises success. Among other matters, an entertainment has been undertaken by the ladies, to which one evening will be devoted; one afternoon will be set apart for a trip over the new electric lines which connect Marysville with all the outer world. A splendid programme is now under preparation, which will depart somewhat from the old order of things and be of greater interest than usual. Arrangements have been made for securing excursion rates from the railroads, and a committee will look out for seeing that all visitors are well housed while there

The Galloway

Continued from Page 473

good demand at private sales. Some are even passing the \$1000 mark.

Encourage High Breeding.

In frankly asserting my preference for this breed and earnestly pushing their claims for superiority, I do not ignore the fact that there are grand qualities in all the beef breeds. Pure blood is to be as eloquently praised, as scrubs are to be persistently fought. How many times in recent years, in discussing the merits of the various beef breeds, have we heard a statement something like this: "Yes, the Herefords are the best cattle on the range, but on our farm the Blacks and Shorthorns are the favorites." This statement is always made by a Hereford ranchman or some one that is just guessing at his mark. First, the Galloways are better rustlers than any cattle. They are always on the hunt for something to eat no matter what the condition of the weather is.

The sires are prepotent; no matter what the dam is the get will be hornless, and nine-tenths of them will be black. This being the case, you can grade up a mixed herd of cattle with a Galloway bull faster than any other breed that exists. All will be black and look alike; they are always good sellers.

It is yet possible that the Galloway will gain supremacy on the range. They are wonderfully hardy, for their lung power is great. Its coat is a magnificent robe of long, black hair, which has taken the place of the Buffalo robe in the markets of the world.

It has a fearless, independent mind, yet it is a docile animal and satisfactory to handle.

A Good Cross.

Lastly, the Galloway cow crossed with the white Shorthorn bull produces the most famous types of feeding steers known to the records of the beef-producing world. I refer to the "Blue-Gray" cross-breed, which usually top the British markets and are always looked for at a premium by feeders.

Not a Dairy Type.

While we don't claim a dairy breed, we do claim their milking qualities as good as the Angus, Hereford and some Shorthorns. They always raise a fine calf.

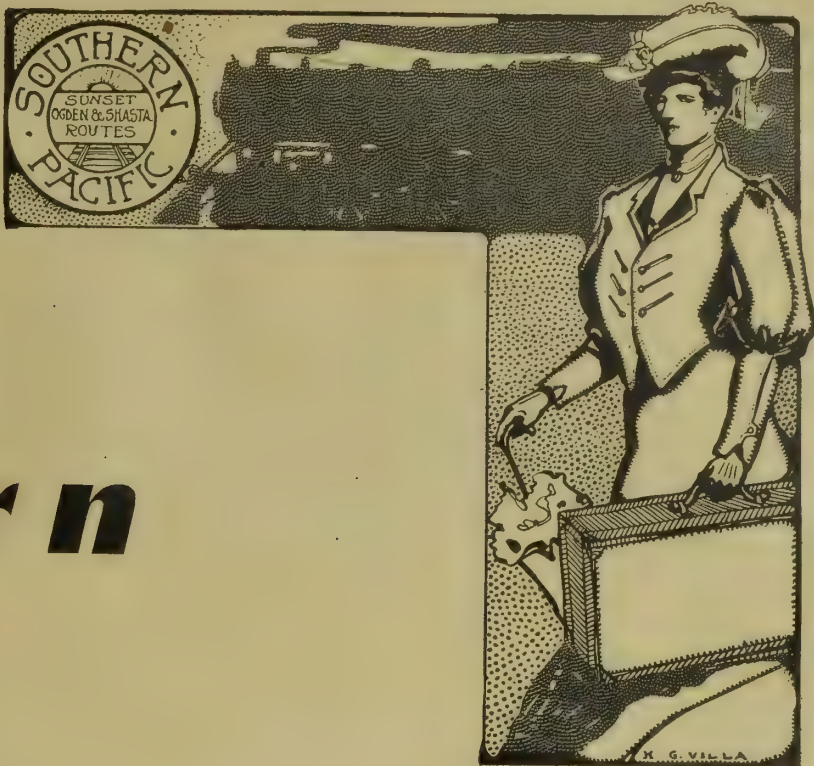
Their flow of milk is celebrated for quality not quantity; therefore, you never see spoiled udders on the range. In 1902 the Galloway cow, Lady May, No. 11,562, was sold for \$7.25 per cwt.—the highest price ever paid for a cow of any breed on the Chicago market.

They do not look large, but that is because they are all meat, besides, the modesty of their black dress has the effect of making them look smaller than they are. Everybody knows the same woman dressed in black appears to have a smaller waist than when dressed in white. So with the Galloway when the black robe is taken off.

The Galloway goes on the scales with as much dead weight as her white or red cousins, and for crossing purposes the Galloway is unexcelled. I have some crosses from full blood Jersey cows and they are black and polled. One can scarcely tell them from full blood Galloways.

Concluding, I would say, when banks and other business fails, the best investment in the land will be the Galloways.—John Troup, Mgr.

Your Eastern Trip



May Be Arranged So That
You May Travel By Way of

New Orleans and the
Sunset Route

San Francisco and the
Ogden Route

Portland and the
Shasta Route

Enjoying the balmy Air of the South or the cool and
bracing air of the North. Personally conducted excursions
every day via all routes without change to principal
Eastern points.

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enough to shave yourself

no matter how stout your beard, if you have the right Shaving Soap, the kind which thoroughly softens the beard and makes easy work for the razor. Williams' Shaving Soap not only does this but has a healing, soothing effect on the face.



"The only kind that won't
smart or dry on the face."

Send 2 cent stamp for a TRIAL CAKE of Williams' Shaving Soap, or 4 cents for a Williams' Shaving Stick, trial size, enough for 50 shaves. Address

THE J. B. WILLIAMS COMPANY
Department A
GLASTONBURY, CONN.

Williams' Shaving Soap



NITRO CLUB SHOT SHELLS

START your hunt right by first buying U. M. C. smokeless powder shells. Any standard smokeless powder will answer if loaded in U. M. C. Nitro Club shells. They insure quick, sure kills with little recoil, smoke or noise. U. M. C. Nitro Clubs won the Grand American Handicap at Chicago. They will win in the game field.

Write for descriptive folder in colors.

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Bridgeport, Conn.

Agency, 313 Broadway, New York City.

Largest National Bank West of Denver and South of San Francisco

First National Bank

of Los Angeles, California

United States Depository for Government Funds

TOTAL RESOURCES, \$20,000,000

ADDITIONAL ASSETS—One Million Five Hundred Thousand Dollars invested in the stock of the Los Angeles Trust Company and the Metropolitan Bank and Trust Co., and held by the officers of the First National Bank, as Trustees, in the interest of the shareholders of that Bank.

We are prepared to extend to the small depositor the same personal and careful attention that we do to our largest accounts.

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President

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Vice-President

CHARLES EWING
Cashier

Country Business and Farm Loans a Specialty

Manhattan Savings Bank

No. 598 South Spring Street
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DIRECTORS—John R. Vogel, John Harlan, C. T. Crowell, W. J. Sherriff, John A. Murphy, J. H. Lapham, Frank A. Dailey, Charles Ewing, F. M. Douglass.

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Southern California Savings Bank

When the new banking room in the Security Building at Fifth and Spring Streets, Los Angeles, is completed—which will be on or about December 1, 1907, the Southern California Savings Bank and the Security Savings Bank will be consolidated and will thereafter transact business in the name of the

Security Savings Bank

4% Interest on Term Deposits

Household Department

TUNE THE OLD COW DIED ON.

Home from his work came Farmer John,

One summer afternoon,
Sat him down 'neath the maple tree;
And he sang himself a tune.
He sang till the cows come running up

And round him formed a ring;
For ne'er before, since the world began,
Had the farmer tried to sing.

Chorus—

And this is the tune, ri-fol-dol-dol,
Sung by Farmer John,
Ri-fol-dol-dol, ri-fol-dol-da,
'Tis the tune the old cow died on.

The oldest cow in the farmer's herd
Tried hard to join that song,
She tried so hard, but she could not sing,

Tho' her voice was loud and strong.

The farmer laughed till the tears rolled down

His cheeks like apples red.

The cow she tried, but she could not sing,

Till she dropped right over dead.

Chorus.

Farmer John had an inquest held,
To see what killed that cow,
The jury sat, and the verdict brought,

Which I mean to tell you now.
They said his cow would be living still,

To chew her cud in glee,
If farmer John hadn't sung that song

Down 'neath the maple tree.

Chorus.

A FRIENDLY WOODCHUCK.

VERY EARLY last spring a woodchuck poked her black nose from the mouth of the burrow in which she had spent the winter, and blinked her little, round black eyes in the sunlight. Then she came out and lay basking on the mound of hard earth before her doorway. She looked very weak, and she was certainly dreadfully thin. Her grizzled pelt hung loosely on her bony frame, and when she moved it was with a languor not usually observed in woodchucks. The fact is that she had but just awakened from an all-winter sleep; and as she had fasted since the previous October she was not only drowsy but famished. But perhaps it was disuse as much as anything else which caused the evident weakness of her limbs, for as she moved about a little, stretching herself in different directions, it could be seen that she was gaining strength with every movement. By and by she turned around and, putting her head and shoulders into the burrow, began raking out with her forepaws all the earth, leaves and grass with which she had blocked the entrance in the fall. With this rubbish came many living things—black beetles, a hornet and a large green frog, all of which had been sleeping away the winter at the woodchuck's door.

After she had made a neat pile in front of the burrow, and covered it up with fresh loam from the tunnel itself, the woodchuck had strength to go off in search of some food. There was very little to get just then, for the winter had barely gone, but she found a little patch of a large rock, a tuft or two of coarse grass near a spring, and with these and a few mouthfuls of bark from a nearby tree she managed to make a moderate breakfast. Then she returned to the burrow and stayed there for two days. By that time the grass had

grown considerable and the woodchuck had less difficulty in getting a meal. And every morning after food became more plentiful the clover appeared in larger and thicker patches, and gradually the wrinkles in the grizzled skin of the groundhog began to disappear.

One morning, after the little rodent had had her morning meal of clover, and she was taking a sun bath on the mound of earth in front of her doorway, some small object struck the mound about six inches in front of her face, and threw a pinch of the dirt sharply in her eyes. She did not know what the trouble was, and she did not stop to find out, but pitched headfirst into the burrow and stayed there. As she disappeared, a small boy, brandishing a Flobert rifle and followed by a little yellow dog, jumped from behind a hillock and ran up to see how near he had come to the chuck. He pulled a grimace when he saw where his bullet had pitted the earth, reloaded his weapon, and went back to his hiding place. But the woodchuck, not being quite a fool, remained where she was safe until the boy became tired of waiting and came back to the hole, the yellow dog still at his heels. The boy now picked up the dog and put its nose to the mouth of the burrow, and after a few words of encouragement the cur, which had more assurance than wisdom, plunged into the black hole. The boy sat down on the mound of earth and yelled "Sic 'em Prince!" and for about a minute no doubt Prince was doing as he was bid. After that, it seems that the woodchuck did most of the "sickening," for the dog backed out of the burrow with two terrible cuts on his head, and howling in a most unprincipled manner. Then, tucking his tail as far between his legs as he could get it, he made for home by a short cut and at his very best pace.

Not long after the woodchuck appeared at the mouth of the burrow with a family of five little ones. They had been born some time before, but this was their first appearance in the open. They were pretty, dark-eyed, soft-coated little fellows, ready to topple back again out of sight at a sign from their mother. Every morning now the whole family might have been seen moving through the grass to the spots where the clover grew the thickest. For a short time they lived in peace but one evening they made themselves a powerful enemy by journeying into the next field and eating off close to the ground three long rows of young peas. The owner of the peas said very little, but he drove to town and brought back a stick of dynamite, which he thrust far into the burrow. A minute later there was a muffled boom, and the farmer went off, satisfied that he would not be bothered again by that family of woodchucks. But in the evening a cautious gray head was thrust from the mouth of the hole, and soon our old woodchuck crawled from her home and made off slowly across the field. The dynamite had killed the young ones, but the mother had been only stunned. She went directly to an old burrow which she had occupied two years before and next morning there was a large heap of fresh earth in front of it. She lived there quietly until the lat-

ter part of the summer, when, returning after an absence somewhat longer than usual, she found the entrance to her home barred by a snarling black head, with a white stripe down the front. The premises had been seized by a skunk, and the woodchuck was obliged to seek a residence elsewhere. She started to dig a fresh tunnel on the other side of the field and for hours she threw out the soil with her strong claws. The following afternoon she was still at work, when the figure of a man, in brown overalls, crept under the brow of the hill and lay down behind a rock at the top. For half an hour the woodchuck worked on; at last she appeared at the doorway for a breathing spell. A little curl of white smoke leaped from behind the rock, there was a sharp report and the woodchuck dropped back into a newly made grave.—N. Y. Sun.

BOILING AND ROASTING MEATS.

Inattention to the temperature of the water and too early application of salt cause great waste in boiling meats. To make fresh meat rich and nutritious it should be placed in a kettle of boiling water (pure soft water is best,) skimmed well as soon as it begins to boil again, and placed where it will slowly but constantly boil. The meat should be occasionally turned and kept well under the water, and fresh hot water supplied as it evaporates in boiling.

Plunging in hot water hardens the fibrine on the outside, encasing and retaining the rich juices—and the whole theory of correct cooking, in fact, is to retain as much as possible of the nutriment of food. No salt should be added until the meat is nearly done, as it extracts the juices of the meat if added too soon. Boil gently, as rapid boiling hardens the fibrine and renders the meat hard, tasteless and scarcely more nutritious than leather, without really hastening the process of cooking, every degree of heat beyond the boiling point being worse than wasted. There is a pithy saying: "The pot should only smile, not laugh." The bubbles should appear in one part of the surface of the water only, not all over it. This differs from "simmering," as in the latter there is merely a sizzling on the side of the pan.

Salt meat should be put on in cold water so that it may freshen in cooking. Allow twenty minutes to the pound for fresh, and thirty-five for salt meats, the time to be modified, of course, by the quality of the meat.

A pod of red pepper in the water will prevent the unpleasant odor of boiling from filling the house.

To Roast.

To roast in oven, the preparations are very simple. The fire must be bright and the oven hot. The roast will need no washing if it comes from a cleanly butcher; wiping with a towel dampened in cold water is all that is needed; if washing is necessary, dash over quickly with cold water and wipe dry.

If meat has been kept a little too long, wash in vinegar, wipe dry, and dust with a very little flour to absorb the moisture. Place in pan, on a tripod, or two or three clean bits of wood laid crosswise of pan to keep it out of the fat. If meat is very clean, add a teaspoon or two of water; if fat, the juices of the meat will be sufficient, and the addition of the water renders it juiceless

and tasteless. While the meat is in the oven, keep the fire hot and bright, baste several times, and when about half done turn it, always keeping the thick part of the meat in the hottest part of the oven. Take care that every part of the roast, including the fat of the tenderloin, is cooked so that the texture is changed.

Fifteen or Twenty Minutes to the Pound.

If the fire has been properly made, and the roast is not large, it should not require replenishing, but, if necessary, add a little fuel at a time, so as not to check the fire instead of waiting until a great deal must be added to keep up the bright heat. Most persons like roast beef and mutton underdone, and less time is required to cook them than for pork and veal or lamb, which must be very well done. Fifteen minutes to the pound and fifteen minutes longer is the rule for beef and mutton and twenty minutes longer for pork, veal and lamb. The directions for beef apply equally well to pork, veal mutton and lamb.

Underdone meat is cooked throughout, so that the bright red juices follow the knife of the carver; if it is a livid purple it is raw, and unfit for food. When done, the roast should be a rich brown, and the bottom of the pan covered with a thick glaze. Remove the joint, sift evenly over with fine salt, and it is ready to serve. Never salt before or while cooking, as it draws out the juices.

The Gravy.

To prepare the gravy, pour off the fat gently, holding the pan steadily so as not to lose the gravy which underlies it; put the pan on the stove, pour into it half a cup of boiling water (vary the quantity with the size of the roast; soup of any kind is better than water if at hand) add a little salt, stir with a spoon until the particles adhering to the sides of the pan are removed and dissolved, making a rich, brown gravy (some mix flour and water and add as thickening.)

Basting.

In roasting all meats, success depends upon basting frequently (by dipping the gravy from the pan over the meat with a large spoon) turning often so as to prevent burning, and carefully regulating the heat of the oven. Allow fifteen to twenty-five minutes to the pound in roasting, according as it is to be rare or well done, taking into consideration the quality of the meat.

Roasts prepared with dressing require more time. In roasting meats, many think it better not to add any water until the meat has been in the oven about half an hour, or until it begins to brown.

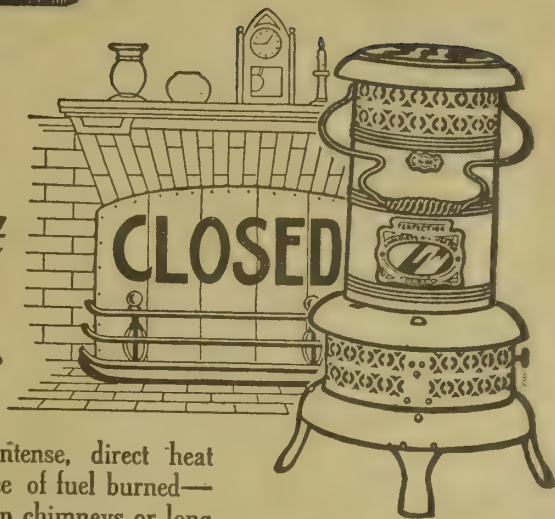
THE SOAPBOXBIL.

I just don't like you Tommy Green! The worstest boy I ever seen! You said I'd ride in your Soapbox-bile, And have ice cream, if I didn't squeal, And now you go a-slyin' by, A-lookin' out of t'other eye.



Pets

The Heat that Doesn't go up the Flue



You receive intense, direct heat from every ounce of fuel burned—there are no damp chimneys or long pipes to waste the heat from a

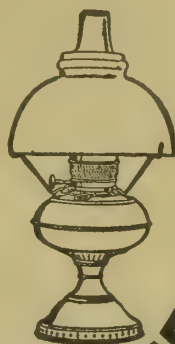
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TOURIST SLEEPER

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To Chicago

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Denver & Rio Grande and C. B. & G.
To St. Louis

D. & R. G., Union Pacific and Northwestern
To St. Paul

Information, booklets and rates furnished with pleasure by all agents of the Salt Lake Railroad

Slly to bed and olly to rise
s the fate of the man when an auto
e buys.—Life.

San Francisco Markets

SAN FRANCISCO, Nov. 12, 1907.

Butter.

Butter is recovering and has even made a slight advance for fresh extras this week, though receipts have been very heavy. Storage and Eastern have both declined.

California extras per lb.	32
California firsts	26
California seconds	25
Eastern extras	26
Storage Cal ex.	27½

Cheese.

California young American fy	15
California flats fy	15
Eastern fy	18½
Oregon fancy	15½

eggs and Poultry.

Eggs are getting close to high water mark and are now quoted at 65 for local ranch and practically a 10-cent increase during the week. Inquiry for them is keen and supply very tardy in coming in.

Fresh Ranch eggs	56
Eggs firsts per doz.	45
Eggs seconds per doz.	27
Eggs thirds	23
Storage Cal extra	29
Eastern selected	24
Eastern firsts	22

Two cars of Eastern poultry came Monday, but receipts of local was very light.

Hens per doz.	4.50@6.00
Hens extra	6.00@7.00
Young roosters	5.50@6.50
Old roosters	4.00@4.50
Fryers per doz.	4.50@5.00
Broilers per doz.	4.00@4.50
Geese per pair	1.50@2.00
Ducks young	4.00@4.50
Turkeys per lb.	.18@.25
Pigeons	1.00@1.25

Live Stock.

Steers No. 1.	8@8½
Do second quality	7@7½
No. 1 cows and heifers	6½@7
Hogs 80 to 200 lbs.	7½
Hogs 200 to 300 lbs.	7½
Calves per lb.	4½@5
Lambas	6@6½
Wethers No. 1.	5@5½
Ewes No. 1.	4½@5

Potatoes

Excepting for fanciest stock, potatoes are very quiet and hard to get top quotations.

River whites	1.00@1.35
Oregon Burbanks	1.20@1.40
Salinas	1.50@1.60
Sweets	1.25@1.40

Vegetables.

Cucumbers per box	75
Corn per sack	1.50@1.75
Chili peppers per box	50
Bell peppers per box	60@75
Egg plant per box	50@75
Green peas per lb.	4@5
Squash per box	1.25@1.50
Marrowfat squash per sack	60@75
Hubbard squash per sack	60@80
Tomatoes California	75@90
String beans	2@3½
Wax beans	3
Garlic	4@6

Onions.

Onions Br Australian per ctl	2.35
Yellow	2.15@2.40

Citrus Fruits.

Valencias	3.00@4.50
Grapefruit seedless	2.50@4.50
Lemons	4.00@4.50
Limes	6.00@8.00

Fresh Fruits.

Two cars of oranges came in on Monday. Market easy.

Apples Gravenstein	1.25@1.50
Apples small stock	40@75
Crab apples	85@1.00
Figs one layer	50@1.00
Grapes per crate	40@1.50
Huckleberries	10@13
Melons per small crate	50@60
Pears winter Nellis	1.50@2.00
Pears cooking	60@1.25
Persimmons	75@1.25
Pomegranates per box	1.00@2.50
Quinces per box	1.00@1.50
Raspberries per chest	7.50@11.00
Strawberries per chest	6.00@8.00
Watermelons per doz.	1.75@2.50

Dried Fruits.

Apples (evap.)	10@10½
Apricots per lb new	18@24
Figs white	3½@5
Nectarines	12½@15
Plums pitted	12@15
Prunes 4 sizes	4@5½
Peaches	10@13
Pears	7@13
Prunes 4 size bag basis	4½@5

Beans, Dried.

Limas	5.15@5.30
Pink	3.25@3.35
Small white	3.50@3.60
Large white	3.00@3.10
Lady Washington	3.10@3.50

Black eyes..

Black eyes	4.00@4.25
Red kidneys	3.40@3.50
Bayo	3.15@3.25

Hops.

Hops new future delivery per lb	7½@10
Hops old fancy	4@6

Nuts.

Almonds new	16½@17½
Peanuts California	6½@7½
Walnuts	14@17

Honey

Clear white comb	16@17
Amber	12@15
Extracted	7½
Beeswax No 1 per lb	26@28

Hay.

Alfalfa local	12.00@13.50
Tame oat choice	18.00@19.50
Wild oat	10.00@14.00
Wheat No 1 new	21.00@23.00

Grain.

Wheat No 1	1.70@1.72½
Barley No 1	1.60@1.62½
Corn small yellow	1.65@1.70
Corn large yellow	1.65@1.70
Oats white	1.60@1.65
Oats red	1.75@1.90

Feed Stuff.

Bran per ton	25.00@26.00
Straw per bale	75@85
Feed cornmeal per ton	37.00@37.50
Cracked corn per ton	38.00@38.50
Roiled barley per ton	35.00@36.00
Oil cake meal per ton	38.50@40.00
Cocoonut cake, per ton	25.00@26.00
Middlings	30.00@32.50

Citrus Market

LOS ANGELES, Nov. 12, 1907.

Orange shippers are in trouble over the car shortage. If cars could be had at this moment there would be approximately a hundred cars a day going out to supply the Thanksgiving trade. As it is, less than half that number are being shipped.

Central and Northern California are suffering worse than the Southern part of the State.

Tulare county alone should be forwarding approximately 60 cars daily, but as a matter of fact is shipping practically nothing. Southern California with three roads as an outlet has at this time less trouble.

Prices are uncertain. But few f. o. b. shipments are made so that until returns come from the East, there will be uncertainty as to prices. Were it not for the financial flurry, there is no reason to question that the strong condition at the close of the old year should prevail now.

Lemons are somewhat on the slump. Fancy goods find ready sale at moderate prices, but culls and lower grades go begging. There is no immediate prospect of the market recovering.

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For Mehrling Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

FINE ORPINGTONS.

One of the most enthusiastic breeders of Orpingtons in this State is W. S. Sullivan of Lynews. The Cultivator recently spoke of his great display at the State Fair, and he did have some beauties there. Doubtless, he is making another winning this week at the San Jose poultry show.

Sullivan knows how to grow winners. Better still, he knows how to produce that not only as a good show-er but as well a good doer.

THE PIONEER HATCHERY.

E. E. McClanahan and D. E. Doke have combined forces in the baby chick business and will run a chick store at 711 S. Main street, Los Angeles. The combined sales of these two firms the past year was close to 90,000 baby chicks, not to mention the ducks, turkeys, goslings, etc., that were sold. Both men are well and favorably known, and are in touch with all thoroughbred egg men and you can get good stock. We wish them success.

SEND IT TO CANADA.

I consider your paper a most excellent paper and would not know how to make any improvement on it. I am going to send several of the last numbers to some of my friends in Canada.—Wm. Hausler, Santa Ana.

A GREAT HELP.

In sending in remittance for the Cultivator, Mrs. H. H. Morgan, of Ontario, writes:

My husband was always a great reader of your paper, and since his death last January I have found it of very great help to me in carrying on his work.

Percy L. Harley proprietor of Feather Farm, Redlands, Cal., has just returned from a three months trip through the East, where he had the pleasure of visiting many of the largest and most progressive poultry plants, and especially those interested in Orpingtons. He informs us that after carefully inspecting the best birds on these farms he is more than ever convinced that California has just as good birds as can be found in the East.

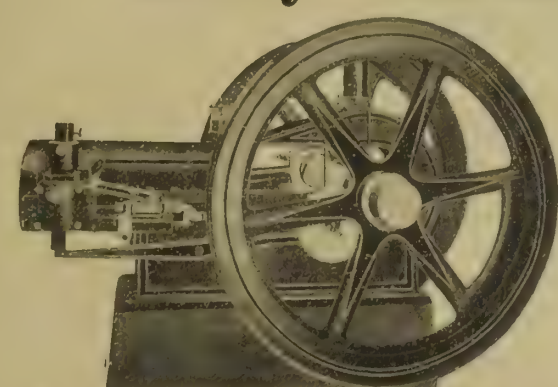
Mr. Harley has been very successful this season not only in quantity but quality, and has some extra choice birds for immediate shipment. Those wishing birds will get the benefit of Mr. Harley's experience.

R. J. Hunter, of Gridley, is among those who are doing a great deal toward furthering the interests of the small fruit growers. He has ten acres of land on which he is not only making money by raising berries, but he is constantly experimenting with new varieties and propagating the standard varieties under different conditions of soil treatment and varying methods of pruning and cultivation. He is issuing a creditable little catalogue that he will be glad to mail to any who make inquiries. Address R. J. Hunter, Oak View Berry Farm, Gridley, Cal.

Our readers are advised to send to the Enterprise Manufacturing Company of Pa., 240 Dauphin St., Philadelphia, for a free copy of their new book, "The Enterprising Housekeeper." The regular price of this book is 25 cents, and it is well worth it, but any of our readers can secure a copy free on request. Besides hundreds of new and unusual recipes, it contains a great deal of valuable information and helpful kitchen suggestions.

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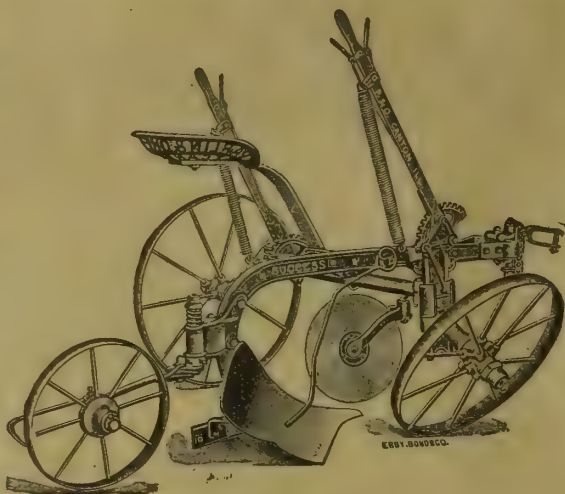
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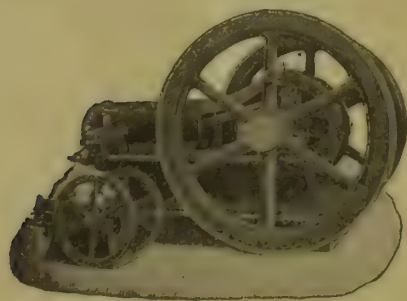
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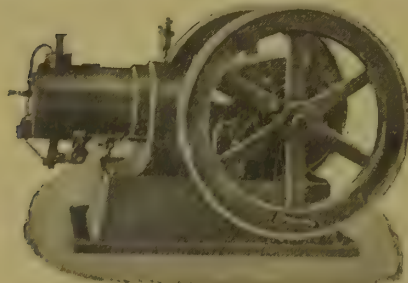
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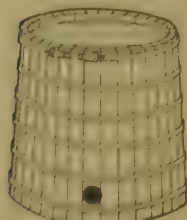
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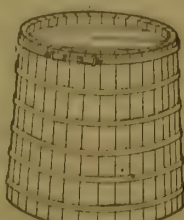
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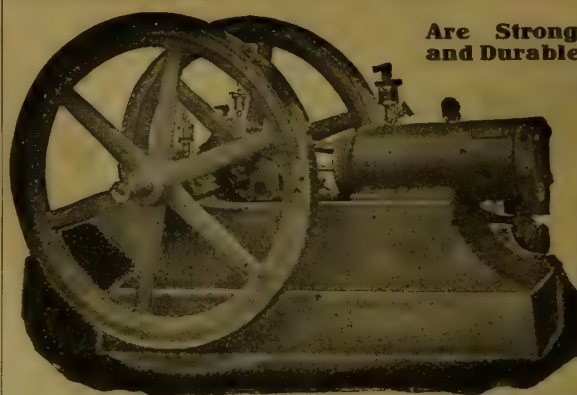


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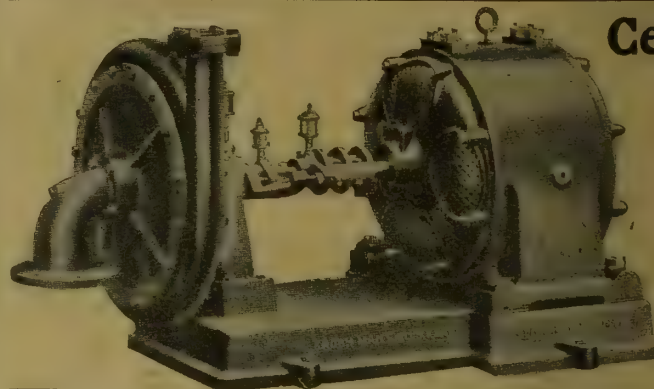
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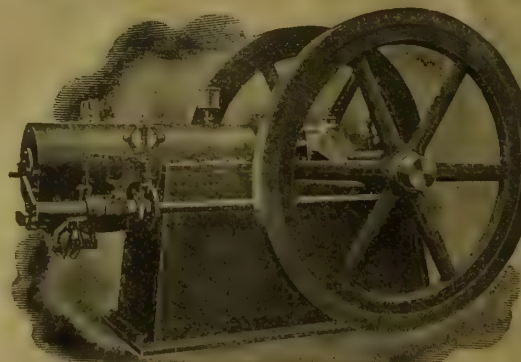
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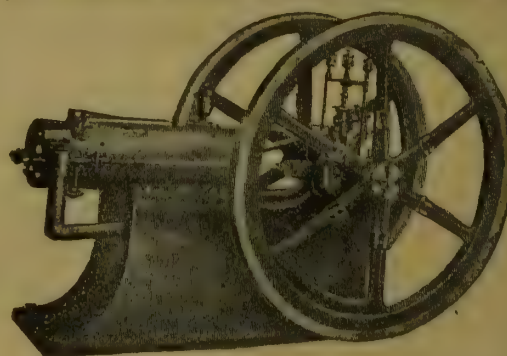
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California Cultivator

Los Angeles

November 21, 1907

San Francisco

Effects of the California Peach Blight

A Dread Disease of the Peach Which
Attention at the Proper Time Controls

THE disease which forms the subject of this bulletin has come to be a well-known factor in peach growing in practically every part of California where the fruit is extensively grown. While its general occurrence has been experienced only during the past few seasons, the disease has become so abundant and its effects so extremely disastrous that almost every peach grower has come to know it and see the necessity of finding some immediate preventive treatment in order to save his trees from actual destruction.

The present publication aims to present the results of three years' experience and experimentation in the control of this trouble, showing the almost absolute success with which the disease has been controlled by treatment. The work has been unusually satisfactory in this respect, and it has apparently been fully demonstrated that by proper attention the grower can fully protect his trees and crop from the effects of the blight at a minimum expense.

This disease appears to have been present in the State for some time. Professor Pierce records it as occurring previous to 1900, and some growers recognize the trouble as one with which they have been familiar for a number of years. It was in the spring of 1904,



Twigs from Sprayed and Unsprayed Trees, 1907



Courtesy California State Experiment Station
Peach Orchard Showing Typical Blight Effect

however, that the "blight" began to attract much attention. The injured condition of many trees at that time was very evident. This was particularly the case in the Sacramento, San Joaquin and Suisun valleys. A spotting, gumming and death of the buds and twigs, particularly on the lower part of the trees, appeared in some abundance at that time. The winter of 1905 was a very wet one, and the blight increased greatly that spring. By the middle of February, 1905, it was evident in many places that a fresh infection had taken place and the growers began very generally to see the necessity of finding means of controlling this new disease. Since another even more serious orchard disease, the pear blight, was making its first appearance in much of the same territory at the same time, the peach trouble was considerably overshadowed for the time. The writer first became familiar with the disease as a serious matter in the fall of 1904, since which time the matter has

Continued on Page 497

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IF YOU WANT PLENTY OF EGGS THIS FALL AND WINTER when prices are high, you must lay your plans now. The hens must be given a strong feed which will enable them to get through the molt without loss of condition, and they will then quickly commence laying again.

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At the same time they must have the best food you can give them from the commencement of the molt. You will find COULSON'S IMPROVED MASH EGG FOOD is just what is required. It is strong in protein, due to the blood, meat, bone and oil cake meals which it contains.

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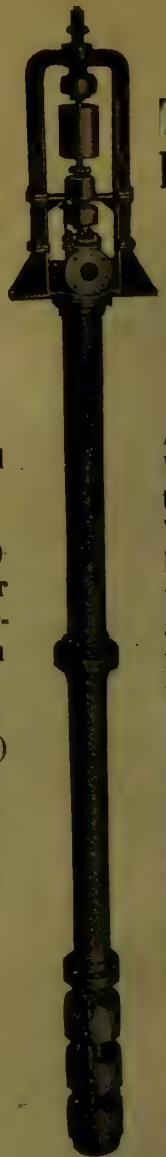
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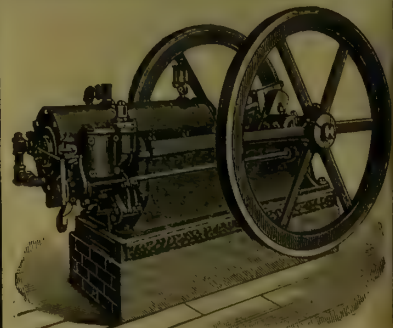
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California Cultivator

Vol. XXIX—No. 21

Los Angeles, California, Thursday, November 21, 1907

Subscription \$1 a Year

A Menace to Peach Industry Controlled

The State University Issues a Comprehensive Bulletin by Prof. Ralph E. Smith, Who Has Been Assisted in Many Experiments by E. H. Smith, T. F. Hunt and B. J. Jones

WHEN, in 1904 and 1905, the peach blight began to be abundant enough to attract notice, it was evident to all who observed the matter closely that the usual practice of peach spraying in February or March was too late to check infection by this disease. Twigs which were sound and healthy in December were found to be spotted with infection by the first of February. Even with the heaviest and most thorough spraying with Bordeaux mixture, or lime, salt and sulphur, applied at the usual time, the gumming produced by the blight would be

respect to this disease. One orchard, sprayed mostly in December, but finished out late in January, showed a decided difference in the two portions. Spraying in December was perfectly successful; in January partially so, and in February and March without effect on this disease. The blight was so bad in unsprayed or late-sprayed orchards, with the crop and foliage almost entirely gone, and all the growth on those sprayed in December perfect, particularly the lower, inner, blight-susceptible fruiting twigs, that one seldom sees so striking a contrast in the treatment of any plant disease. Abundant comparison was available between trees of the same variety, age and condition.

Effect on Curl Leaf Equally Good.

The writer took some pains to note in this connection the effect of this early spraying on curl leaf, inasmuch as any peach treatment must take this disease into consideration. So far as could be judged, the effects were equally good, and the disease controlled as well as by the usual later spraying. The fine condition of a block of December-sprayed Susquehannas was especially noticed, while unsprayed trees on this and even less curl-susceptible varieties were badly affected by curl leaf wherever the blight fungus had left any leaves on the tree.

To Summarize:

Unsprayed trees were very badly affected by blight and curl leaf.

Trees sprayed in December were free from any disease.

Trees sprayed late in January were somewhat affected by blight, but free from curl

leaf.

Trees sprayed in February and early March were free from curl, but no better than the unsprayed in regard to blight.

* * *

Time of Spraying for Blight Control.

September was too early and February and March too late. Spraying in the latter part of October seemed effective, and from then on to the middle or last of December the best results of one application were secured in preventing blight infection.

The attacks of curl leaf complicated matters. In many cases a complete blight control, obtained by early spraying, was nullified by unchecked attacks of the other disease. Spraying in November and December did not altogether hold the curl in check, while the February and March applications did so perfectly. It, therefore, seems best in the future to advise two sprayings, one early and one late, to insure freedom from both diseases.

As a third peach pest, the peach worm may be controlled by spraying with lime, salt and sul-

phur just before the buds open, a treatment that is equally efficacious for curl leaf, we suggest this for the second spraying rather than Bordeaux mixture.

Kind of Mixture.

Practically all these results refer to Bordeaux mixture. We have reason to feel sure that lime, salt and sulphur spray would give equally as good results, but for the blight alone the more easily prepared Bordeaux is usually preferable.

Proportion of Mixture.

We have not laid great stress on the exact formula for the Bordeaux mixture to be used. Where the mixture was properly prepared very little difference in the results has appeared, whether it was 20-20-200, 30-35-200, or very much stronger as some have used it. Ordinarily, the 20-20-200 formula is probably strong enough and affords some saving of material over a heavier application. A mixture containing more copper and lime remains longer on the tree, however, is not as quickly washed off by rain, and shows more plainly on the tree just how thoroughly it has been covered. We would, therefore, advise the use of the lesser strength only when materials are very high and scarce or where the workmen are particularly adept in applying the spray perfectly. For average conditions we prefer the 30-35-200 for the early application.

Preparing the Mixture.

The preparation of Bordeaux mixture has been described almost too frequently to need repetition. The lime should be of the best and per-



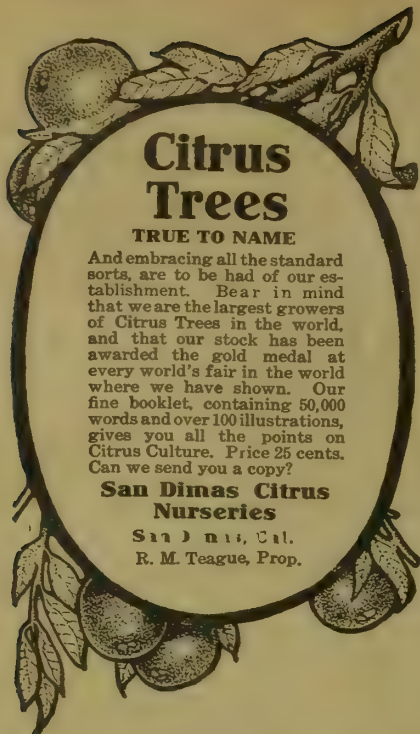
Peach Twigs Affected by Blight



Left Side of Tree Sprayed in December, 1906, Right Side Unsprayed

fectly unslaked, and slaked in a considerable amount of the water and stirred and strained to make a perfectly smooth whitewash. The bluestone is to be dissolved in water, a stock solution of known strength being most convenient. In mixing the two, plenty of water should be used to keep them well diluted, and the mixture well

Continued on Page 507



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With the Citrus Growers

THE ORANGE IN JAMAICA. SEEDLINGS DO THE BEST.

BUDDED orange trees are dying out by the scores in some groves, while the good old seedlings in the pastures go on bearing merrily, says a correspondent in the *Journal of the Jamaica Agricultural Society*.

Although the practice of using budded citrus trees has become generally adopted in the island, there are still a great many who look askance at the innovation and remain staunch in their belief that seedlings make the most reliable and best trees. They point to the seedling orange trees, self-grown, half-wild, unattended, uncultivated, which have been bearing steadily as far back, perhaps, as they can remember; strong, up-standing, healthy trees, proof against scale insects, against drought, or wet, die-back or foot rot, blight or beetles. As they compare such (note the such) seedlings common everywhere in woodland and pasture, with certain budded trees in certain groves (note the certain) grown from seed, sown in beds, transplanted, and well tended, then transplanted to a nursery, budded, kept clean, and then planted out in a grove, where they are kept hoed fairly clean, forked around, limed, perhaps, and manured, and yet in two or three years, snails and beetles attack the leaves, grubs eat the roots, scale infest the whole tree, so that washing and spraying are begun as a necessary part of the cultivation or else the trees die out. Even with all such attention many trees die. This is all apparently plain, as is pointed out by many who do not believe in new-fangled things (although the "new" things are often methods as old as the pyramids,) and often the planter of budded trees can only feebly excuse himself to the enthusiastic advocate of things as they were and seedling trees, by saying he could get a crop in three or four years against the seedling man's seven or eight, and that his will come true while the seedling tree may turn out half sour.

The Why of It.

Now let us bring common sense only to bear on this subject, and leave out all thought of mystery and magic, fads and fancies, theories and tall talk.

The stout seedling tree in the pasture, never cultivated, yet proof against disease, and always bearing well, has germinated as the fittest of a million or more of seeds deposited on the soil around, had grown from thousands that spring through the soil, has survived hundreds of young trees that grew up, has alone reached bearing of scores of its companions, has kept on bearing of dozens that bore fruit and afterward died out. Between this stray tree and the neighboring strong orange tree, may be a space of 50 or 60 feet, and between, bushes of many kinds, a pear, a breadfruit, an ackee, and so on. It invariably happens where there are clumps of seedling trees or two or three close together, that they are infested with parasites and pests of some kind, and are poor trees, only their great grip of the soil upkeeping them. Almost every tree, or plant, has its peculiar pests, and, as a rule, these do not prey indiscriminately upon plants of opposite characteristics, so that when there is some intimate scale on an orange tree, and that

tree is well separated by other trees from neighbors, there is not much chance of one particular pest spreading fast or gaining on the more voracious species of ladybird. There may be other kinds of our trees, insects or birds, unknown to us which get scant mercy at our hands.

Penny Wise.

Is not all this worthy of special study and investigation by an entomologist? I dare say in saving the cost of an entomologist we are losing one hundred times as much in the time and labor involved, in every man attempting to being his own doctor of his trees and still losing them. We have doctors for men, another branch for horses and cattle, so why not have a plant doctor? It is hard to see scores of trees that have just reached the bearing age dying out; but it is just at the stage when the great call is made on the constitution of a tree that its weaknesses become apparent, and it cannot stand the strain. The whole trouble, we think, can be traced. It is not in the fact of budding or grafting, for the bud is part of another tree, and if there is any weakness in its constitution, that can only affect the top of the tree, while our most serious trouble is at the roots, and these roots are those of the stock, grown from a seed. It is, in fact, seedling sour orange trees that are dying out in our groves from root troubles, exactly what the advocates of seedling trees forget.

Same Condition for Both.

The sweet seedling trees in woodland and pasture are subject to exactly the same, and to all diseases that the budded trees in groves suffer from, and every day some are dying out; you can see them diseased and decaying on every estate, only certain of the very fittest disease-proof surviving, as we have pointed out, and there is in every cultivated grove always the same thing, certain stout, strong healthy trees, that cannot be killed. But never having had much, if any, money spent on them, and little or no care, these dead or dying seedlings are not particularly noticed. Still they do not suffer as much from disease of the roots as do budded trees that is evident; wild, self-planted seedlings are diseased above ground, seldom below, while it is the opposite with most of the budded trees, the growth of which is so satisfactory in many places. Is it not evident from this that there is some fault in the transplanting and in the treatment generally of these grove trees? The fact is, the whole operations from planting the seed in a nursery or have been bad. The self-sown seedlings select themselves by the fittest surviving; but no selection has been made by the planter, as a rule. He has not chosen the sour orange tree that was perfect and free from disease, and well loaded with large fruit; nor has he chosen the plump seed from these fruits.

We question whether, in transplanting the small seedling tree from a bed to a nursery, the treatment has been such as could be calculated to make them strong and vigorous. Both in nursery beds and in groves—and generally with all our horticultural operations—the ground has been too quickly and roughly prepared. It is mainly of fallow ground, which is cleared, hoed

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ing and trees put in all in a week. The soil with this treatment cannot be in a condition for tender trees to make growth—tender, for all transplanted trees are tender, and the soil must be of the sweetest and finest for the cut surfaces to head and put forth a fresh root. It is feeding food material, and they consequently get a bad start. But a seedling never interfered with grows slowly and readily, its tap root is deep down; it puts forth a fresh root, it is seedling the time through a hundred years. Our treatment, therefore, has not been tender enough, has been too rough and ready. When deep planting is added to this, the death of the tree is certain.

More Careful.

What is required is to plant fewer trees, and take more time in all the cultural operations from the beginning, for what does it profit to have ground cleared, holes dug and 5000 trees looked over that are bound to give trouble and anxiety and loss later, when 1000 trees very carefully and minutely looked after will probably give as large a return. There is more money in 100 trees bearing 1000 oranges each than in 1000 trees bearing only 100, and poor ones at that. We also want a special study made to find the most deadly enemies of our greatest pests; what, for instance, would prey most upon figs, beetles, and what upon their larvae, the oily "makakas"? At present the only enemies to the "makaka" we know of are poultry and young pigs that loose in the grove, and these root and scratch these grubs up. If the roots are thoroughly healthy the tops will never die off mysteriously. Praying the foliage and branches for all sorts of diseases is not an unneeded blessing if you kill off the hybrids which are so valiant in our interests. Without healthy roots there can be no healthy tree. The proper preparation of the soil and the careful planting of the young trees are things to be looked upon with respect. To dig a row of holes in raw hills and get any odd worker about the place to stick the trees in up to the bud as fast as the holes were dug, is the general style of planting some of these very trees that are now dying out. There is a science in planting trees that may not be learned in a day, however easy it seems.

FLORIDA CITRUS CROP.

In the Chicago-Packer's report of citrus conditions, we note a general shortage. From the large number of estimates sent in from various sections, we quote these few:

Plant City.—The orange crop is very short in this section. Estimate of the State crop at 2,500,000 boxes. Most fruit of late bloom. No sales have been made yet.

Hobe Sound.—About 75 per cent of next year's crop of oranges and grapefruit here. The quality is good. No offers or sales have been made yet. Shipping will begin November 5.

Wauchula.—There is about half an orange and grapefruit crop in this section. Quality is good and shipping will begin in a few days.

Williston.—The orange and grapefruit crop here is about one-quarter of last year's yield. There will be very few for shipment and I think the local trade will take about all in Levy, Alachua and Marion counties.

Raleigh.—There is a fine lot of

fruit this season in Raleigh and Mrs. Fobs here is selling oranges every day and when brought to the market obtains fine prices for them.

Claremont.—The orange and grapefruit crop in this vicinity is favorable. The quality is the best. Estimate the crop of the State to be 2,500,000 boxes. Growers are asking \$2 to \$2.50 for oranges on the trees. No offers or sales have been made yet. Shipping will begin about December 10.

Electra.—Oranges and grapefruit in this vicinity are the same as last year. Quality is good. Think the crop of the State will be very light. No offers or sales have been made yet.

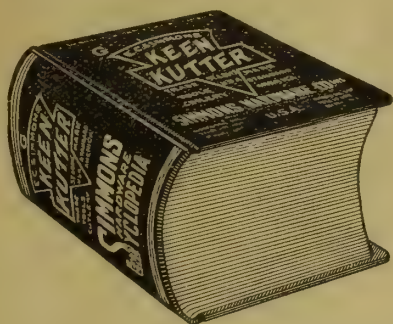
Boardman.—The orange crop here is not so large as last year, but the quality is good. There were 50 cars shipped from here last season, but there won't be quite so many this year.

Indianola.—The orange and grapefruit crop is here about the same as last year. Quality is above the average. Growers are asking \$1.50 to \$2 per box on the trees for oranges. Shipping will start November 15.

THE NEW HARDWARE ENCYCLOPEDIA.

The new General catalogue just issued to the Retail Hardware Trade by the Simmons Hardware Company is the greatest achievement of its kind in modern times and has rightfully been called "Simmons' Hardware Encyclopedia."

Each copy contains 4200 pages, 21,535 illustrations and 79,137 different items, and weighs 20 pounds, the entire edition weighing more than 250 tons. It required 16 carloads of paper, 18½ tons of tar board for binding and 58,000 square feet of binding cloth to make up this catalogue, in which the printing presses have deposited 1½ tons of ink in printing.



Not only does this vast catalogue eclipse anything ever before attempted in point of magnitude, but it represents perfection in every detail. The five-colored productions of Keen Kutter goods are beautiful in appearance and perfect in detail, illustrations are correct, descriptions are concise and complete, classifications of goods clearly defined, and, as a whole, it is safe to say it is the greatest Commercial Catalogue of any kind the world has ever seen.

This Catalogue is issued exclusively to the Retail Hardware Merchant for his use in picturing and describing to the public any items which might be wanted but which he would not usually carry in stock, and by means of it the retail merchant can supply anything on earth that would be in stock in the largest retail hardware store in the world.

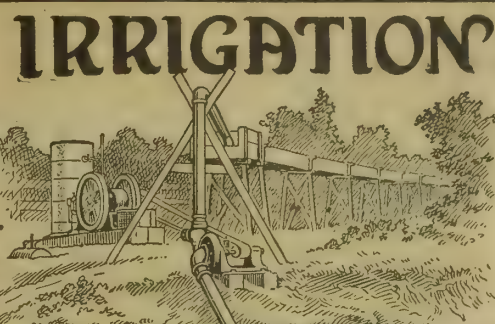
It is well worth the time of any man, woman or child to call on a local dealer and ask to see a copy of the "Simmons' Hardware Encyclopedia."

"Really," remarked the lazy cad, "I've been wondering what to give up during Lent."

"Well," remarked Miss Peppery, "you might give up your seat in a street car occasionally."—Philadelphia Press.

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WILL GIVE YOU ALL
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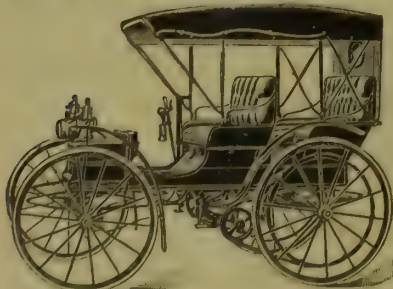
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Live Stock and Dairy

BUTTER MAKING ON THE FARM.

A LEVER butter worker is not expensive and can readily be found at almost any store handling dairy supplies. When I began to make butter, no form of worker could be purchased in the then little village of Fresno. Indeed, the storekeepers rather resented my wanting such a thing! They told me: "Don't you know that butter cannot be made in Fresno? It is impossible! It was not even good enough to use for cooking! It was only axle grease!" Now, I have never found anything that had to be done, impossible. It can always be thought out, for there is always a way around to master everything. I came home and thought about it awhile. Then I took a hatchet and knocked out some boards and cleats from the large ash box that the grand piano wore when it traveled in the freight car from Philadelphia. A saw and a jack knife shaped the triangular form for the worker, a plow clevis held the lever made from a cleat. One end of this was whittled into a handle. Then a rim was tacked on the sides with wire finishing nails. Behold, it was a butter worker! Don't laugh, for it was a good one and was used until the family butter-making grew and merged into a regular creamery plant, with combined butter worker and churn and power.

Working.

Even a simple butter lever must be rightly used to make it a success. If the lever is dragged over the butter it will spoil the grain. Raise the lever and fold the butter down with the paddles, then start at one side and raise the lever clear of the butter each time. Press it down, moving it on toward the other side across the worker. Fold the butter again up into a roll and again go over it with the lever, fold in from side to side and press again. The color should be even and the water cease to drip out when it is finished.

Moulding.

Stand the butter in a cool place, closely covered for a couple of hours, to harden. Scald and cool the molds before using them. Pack the butter into the molds and trim them off evenly. Turn on to a sheet of parchment paper, fold the ends in neatly on the butter. It costs but a trifle to have your name and address as maker on the paper. It is good to do this. It gives you standing as a maker of good butter and a chance to have a sale for it to private families. A better reason is the self-respect founded on doing honest work. The world recognizes that it is the thrill of doing our best, not the value of the product, that makes life worth living.

Private Trade.

A few private customers can always be found for good butter. This is to be preferred to selling or trading it off at the local grocery. Butter is not improved in flavor by being stored close to kits of mackerel, kitchen soap, candles and coffee. In selling to private families, there are some stumps to run against. A knowledge is gained of the lack of housekeeping in some women that is surprising. The way the refrigerators are neglected! When sickness and death come one can only think how would the faithful minister

who prays so earnestly at the funeral feel if he knew that through your wicked mind at that most solemn moment, drifted the thought of the refrigerator full of broken scraps of spoiled food and that it had an active hand in this death. It does not do to consider that a responsibility lies close at hand. You, as a dairy woman, know that much of your honest perfect butter has been spoiled by an unwashed refrigerator. Dirt! Dirt! Horrible dirt! Faults.

Watch the strainer cloths; they soon become foul and sour. By having three or four and using them in turns, washing, scalding and hanging out to dry in the air, the extra one will make them last much longer and keep sweeter.

Where churning cannot be done more than once a week it is almost impossible to have perfect butter. The cream must be kept at 50 deg., and a handful of salt is put into the jar with the first cream it will keep from developing a rancid flavor. Fifty degrees is as cold as it is safe to keep ripening cream without it is kept genuine cold storage. A temperature of between 50 and 36 seems to be favorable to a bitter ferment or bacteria forming rapidly while the natural crease of the lactic acid bacteria retarded or entirely stopped. The cream grows bitter, then decomposes without souring or clabbering in the natural way. Any one that has smelled the decomposed mass of rotted sterilized milk only knows the awfulness of this smell.

Women.

I believe every woman should have a separator to lighten her work. A separator that runs only an hour a week is last that much longer and the repair is that much lighter. The mowing machine does not work half the time, yet no farmer ever cuts hay with a scythe to save the money that stands idle in a mower! The kitchen is a workshop where the most important work, that of building up the physical frame to stand strains, goes on from day to day. Every workshop should be fully equipped with proper tools. The lack of running water and a boiler to keep it hot is common in the country homes. Work is trained out into hours that could be quickly accomplished if the proper tools were at hand. This makes it hopeless drudgery.

Servants.

The woman that employs a cook knows she must have proper tools, that the kitchen must be as fully furnished in its way as the parlor. Is it not pitiful that the hireling is more considered than the mother? The mother is already doing double duty as cook and as a trainer of children. Love does not shirk! Love does not strike! It carries the burden to the end. The husband often forgets to forbear growling over his food and the wife has had all the burden to bear.

Result: Rebellion of some women against living on a farm has taken place. They realize the truth of the rhyme,

Man works from sun to sun,
Woman's work is never done.

These women insist on living in the village and this dislike of the farm

Veterinary Instruments, Black Leg and Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

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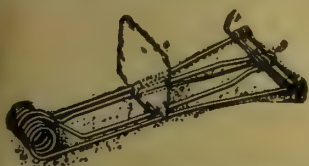
We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

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IT'S PENNY WISE.

Policy to set out a good tree, cost- ing good money and then let the sun burn the bark or the rabbits gnaw when for \$1.00 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Manufacturing Company, 1380 Willow street, Los Angeles.

Members of the Kings County Poultry, Pigeon and Pet Stock Association are planning for a good show this season.

early impressed on the minds of the children. Making the mothers happy on the farm will help solve the question, "Why do the young people leave the farm?" Lack of time to enjoy the beauties of nature has much to do with it. The influence of every-day complaints of discomfort find echoes in the feeling of the growing children. The city life looks desirable because the work is finished some time before 6 o'clock and the rest of the time is their own. In the country the work begins early, finishes late, and there is no enjoyment to look forward to lighten the soil.—M. E. Sherman.

LET DAIRYMEN ORGANIZE.

If you will spare the space in your valuable paper, I would like to address the dairymen of California, on a very important subject. My opinion is that dairymen should organize a Dairyman's League. The design to be for their mutual protection. My reason for such organization is that I don't think that the dairyman gets a square deal. The experience of the Holtville Creamery Co. leads me to this belief.

The Holtville Creamery Co. has been making butter about five or six weeks. The first shipment we made, a telegram came stating "butter very poor, what shall we do with it?" But we did not think so much about it this time as our churn was new, and might have tasted of the churn. But twice more since the same word has come back. And the last time we had the butter inspected by several competent persons, and they all declared it first-class.

Now I think some one is working a scheme to put us out of business, and, no doubt, many other creameries are having the same experience.

My plan is this: Let all the creamery companies, or the dairymen in each settlement of the State, call a meeting and choose a delegate to represent them at a convention to be held in Los Angeles at such time as thought proper, and organize a dairyman's league. This organization should make provisions for cold storage in Los Angeles and San Francisco. This would enable us to keep our butter or cheese as long as we desire, or till the market suits us. The price of butter should be the same in San Francisco as in Los Angeles. Butter that was sold on the local market should be sold cheaper than butter that had to be shipped. And this would have a tendency to stimulate the home market.

It might also be necessary to provide a fund, so that if we had to hold our butter for a considerable length of time, no one would suffer. We could hold our dairy products till the price is right; in fact, we would set the prices ourselves. But, of course, the price would be regulated by the supply. I would be pleased to hear from anyone on the subject.—W. F. Gillett, Holtville, Imperial Co.

BARRENNESS IN COWS.

A reasonable healthy cow or heifer that has been bred once or twice at different periods of heat to a reasonably healthy bull, and fails to get with calf, should be looked upon as barren, unless it may be the fault of the bull, which is very seldom the case. This can be determined very easily by breeding the bull to several of the cows and watching the results. If

Wood Sole Shoes for Creamery Men, Farmers and Milkers. O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

any of them conceive, that proves that the bull is not at fault.

In case a cow does not conceive it is not advisable to take her to outside bulls, as by so doing chances are being taken of introducing into your herd diseases that may prove more serious than barrenness.

A cow coming in heat at unreasonable periods and frequent intervals such as the day following expulsion of the foetus, or the birth of a calf, is another sign of barrenness.

The mere fact of a cow coming in heat at any time after she is bred should be looked upon with suspicion, and should receive proper attention as early as possible, for the reason that the longer the cow remains barren the more difficult it will be to get her with calf.—By Dr. David Roberts, Wisconsin State Veterinarian.

STOCK TONIC NECESSARY.

Farmers and cattle raisers are coming more and more to see the great importance of a stock tonic.

Before our present-day experimenters proved their point, no one thought it necessary to do anything to aid animal digestion, in fact, no one thought such a thing could be done.

Now feeders of live stock, whether for beef or milk, never even attempt to "fit" a bunch of steers or produce a given quantity of milk without giving each animal in the herd a corrective in daily doses.

A few years ago farmers took sickness and loss as part of the business. Their profits were small because a few weeks heavy feeding on an unbalanced ration, without assisting nature in any way, was sure to throw the animal "off its feed" and actually undo all that had been gained up to that point.

The amount of money lost to feeders in this way must have been something startling, and under our present laws of keen competition would have been ruinous.

All this uncertain and haphazard way of doing has given place—thanks to the few who have made a study of these things—to a scientific and certain way of reaching uniform results in the cattle trade. Men know a whole lot more than they did, but it's the Stock Tonic above all else that has given cattle raising the reliability of an established business.

If the reader will think for a moment how much the animal system is like a machine, he will see a good reason for the tonic idea. If you overload a machine—ask it to do double work—more power is needed to run it and the strain on every part is greater. So with the fattening steer or milch cow—heavy feed means great strain on the digestive apparatus, more nerve force to run it and more wear and tear on it.

Here is where the tonic gets in its work. Composed as it is of elements known to be beneficial, it gives just the proportion of added strength needed for each part and so the whole animal is carried over and beyond the danger point and enabled to make steady gain in weight. A stock tonic is certainly the one thing needed by the feeder if he is after the greatest profit in his business.

Our fathers got along without the "food tonic" because they didn't know it. To the farmers and feeders of these days the "food tonic" of known value, containing the bitter principles which aid digestion, iron for blood building and cleansing nitrates in proper proportion, is an absolute necessity.

Several farmers' institutes held near Bakersfield were well attended, and much interest manifested.

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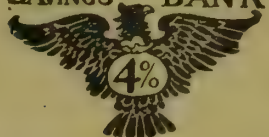
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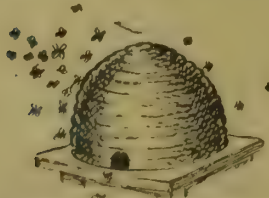
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Casey.—An' whol did ye name th' baby after the Czar?
Corrigan.—Well, he don't know a dom thing about annythin' an' sthll he's th' boss.—Puck.

California Horticulturally

PEDIGREED NURSERY STOCK.

ORCHARDISTS and fruit growers generally have much to complain of in the carelessness with which even established nurserymen handle their stock. In buying a lot of trees of any one kind for an orchard, it is too often found when they come into bearing that other varieties have become mixed with them, and that very many of the trees are not true to name. It is exceedingly difficult when one has to depend upon a lot of unskilled labor for assistance to have all things properly done, but certainly there should be some means by which the planter can be safeguarded in his purchase. There is less care exercised in the production of fruit trees than in almost any other productive calling. In animal breeding all thoroughbred stock is registered and pedigreed. We know all about the sire and the dam and can figure on the chances of the offspring. This is true of poultry, and even of flowers, but in fruit propagation there is the greatest carelessness. The nurseryman too often arranges with an orchardist for a lot of scions and his employees are sent to make cuttings out of a certain block of trees. Little care is taken as to whether all are true to name, whether they are hardy growers and good bearers, whether they are clean or subject to disease, but so many thousand cuttings are wanted and they are slashed from the trees as it happens. Fruit trees should be bred as poultry and animals are. The nurseryman should have well known and pedigreed stock from which to secure his scions. Every tree should be studied and known and be marked for its qualities. It may be a good bearer, a sturdy grower, resistant to disease, or have other desirable qualities, and stock grafted from it could be sold with a guarantee for quality.

EXTERMINATING PESTS.

We often hear and read about insect pest extermination. And recently much has been said about exterminating the White Fly. It is a safe proposition that, once thoroughly established, no pest will ever be exterminated. It may be held in check, but never gotten entirely rid of. It is just possible that the White Fly, being within limited bounds, may be exterminated, although there are serious chances against it. All that can ever be hoped with regard to any of our pests is to keep them within limits—reduce their destructive force. This must be done by artificial measures until we can secure natural checks, but once the balance of nature is restored, then they can be left to themselves. While on this subject, much is being said of a parasite for the White Fly, and some people are willing to wait for it. That there is a natural check for this pest is unquestioned. We have a number of native pests belonging to the same family and these are kept down by their natural enemies; we have seen as many as 95 per cent of some of our native aleyrodes destroyed by an internal parasite, but we have none yet that prey upon the White Fly, which is a new species in our State. Now, we have not a parasite for this pest, we do not as yet know where it is or what it is; in the meantime every effort should be made to confine the pest to its present limited area, to

stamp it out there if possible, and take every means to prevent it from spreading to clean sections, and in the meantime, it would be well to find out the country of its origin, and discover, if possible, its natural check.

SPRAYING FOR PEACH BLIGHT.

The State University has issued a very opportune bulletin on the peach blight and remedies therefor. This is the work of Prof. Ralph E. Smith, who has had charge of the investigation of this disease for the past two years. This bulletin gives in detail the results of numerous experiments and confirms the discoveries which have been made in practice, that to be effective, the work of spraying for peach blight must be done before the middle of December. Work done after this date is less effective until by the middle of February it is valueless. The peach blight is a fungus disease, unlike the pear blight, and is easily controlled if properly handled. The one remedy is the Bordeaux mixture, sulphate of copper, lime and water. These ingredients differ in their proportion, according to the judgment of the user, but the common strength for winter use is sulphate of copper, 16 pounds; lime, 20 pounds and water 100 gallons. We have known cases where the water was allowed to absorb all the copper sulphate it would hold in solution, and no harm resulted. This, of course, is for winter use while the trees are dormant. When the trees are in foliage it would do serious damage if used of too great a strength. However, if effective work is to be done against peach blight the work should be done without delay, as every day that passes after the middle of December renders the labor less and less effective.

CONTRACTING FOR RAINFALL.

Farmers of the west side of the San Joaquin valley have entered into another contract with Hatfield, the "rain-maker," for their supply of winter's rainfall. This is clear "heads I win, tails you lose" proposition. If there is a certain amount of rainfall, the farmers contract to pay Hatfield a certain sum, but if the rain does not fall he gets nothing, nor do the farmers either. When we consider that the storms which bring to us our winter rains originate away off in the Pacific ocean, from whence they draw their supply of moisture, and that these storms are no insignificant phenomena, but often cover an area of thousands of square miles, the improbability of a man with a pocketfull of chemicals which he lets off influencing them, will be appreciated. All rains are caused by natural, and never by artificial, causes. But still, if nature provides the rain Hatfield will get the pay, and if nature goes back on him, why the farmer will have short crops and Hatfield will be no worse off.

NORTHERN CALIFORNIA NEEDS RAIN.

The season is now advancing and in the northern counties there has so far been very little rainfall, not enough to be of any service. By some reversion of the natural order of things the precipitation has been more frequent and more copious in the south than in the north this season. At the present time, while there is still time enough ahead, the northern farmers are looking ahead with some degree of anxiety.



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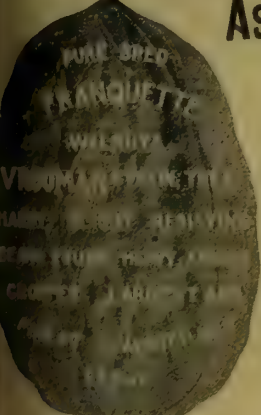
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Grafted French varieties. Ellwood, and seedlings.

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CAN'T DO WITHOUT IT.
We have got so used to reading the Cultivator that I can't do without it.
Charles Nauert, Bloomington.

Deciduous Fruit Culture

WALNUT TREES.

WHAT is the best kind of walnut trees? What age are trees the best? What time for planting? Do they need as much irrigating as orange trees? What are the diseases they are subject to? What are the methods of curing and shipping nuts? Would it be advisable to plant a strip of alfalfa between rows of walnut trees for a few years until trees get large?—C.

If by best kind is meant seedlings or grafted trees, there is quite a difference of opinion among growers. It is certain that if nuts are desired of uniform quality throughout the orchard it will be necessary to plant grafted trees. Even though you plant trees that have been grown from the nuts from any selected tree, the result will not be a uniform product. There is more or less variation in the product of all varieties of seedling fruits, possibly less with the walnut than most others. When I planted the 16-acre walnut orchard on the Barbour ranch four years ago it was decided to use seedlings. I knew a nurseryman at Rivera who had 4000 one-year-old seedlings that had been grown all from the seeds from two trees and each lot kept separate. The one tree from which the nuts were procured had not failed to produce a full crop of fine nuts for 15 consecutive years. The other tree had only borne four or five years, but nuts of exceptional quality. I secured the privilege of going into the nursery before any tree had been sold, and selecting and marking the number I wanted; 328, if I remember correctly. This was in November and they were allowed to remain until February 1st when they were dug with special care so that all the root was secured. They were handled with care, never allowing the roots to become dry, and planted at once. They have not all fruited yet, but those that have seem equally as good as the parent tree.

As to the age: If seedlings are planted, use one-year-old invariably. Be sure to get all the root—at least down to two and one-half feet, if they are so long as that. With grafted trees you will necessarily have to get an older root, as it cannot be grafted until one year old. The new Royal Hybrid walnut, a cross between the Eastern Black and the native California Black, by Luther Burbank is, perhaps, the best known stock to use for grafting upon.

Plant about February 1st. Generally speaking, the walnut will need about as much irrigating as the orange if you mean to have it do its best. And I might add, about as much fertilizing, too. This may not be so necessary at first, but when the trees become large and bear heavily they make an enormous draft upon the resources of the soil, and the wonder is that many orchards do not fail to produce nuts under the usual starvation method.

The worst disease affecting the walnut is blight, and we do not seem to have made much progress in combating it. Like all fungoid growths it is affected more or less by atmospheric conditions, so that some seasons it is worse than others.

The curing and shipping is so largely in the hands of the walnut

associations that it scarcely concerns the grower farther than to obey such instructions as they issue to the growers.

I strongly advise against growing alfalfa between the trees in a walnut or any other orchard. I have often seen it practiced, but the result is invariably either a poor orchard or a poor alfalfa crop. If it is desirable to use the ground between while the trees are young, plant crops that require cultivating and be sure to fertilize. If you do not, do not be surprised at a poor walnut yield later on.—Q. A. L.

CURING FIGS.

Figs that are dried for the market are allowed to ripen and hang on the trees till they fall to the ground. Before the figs begin to drop, all clods should be raked from under the trees or else the ground beneath the trees should be rolled so as to crush the clods or push them into the ground. In a commercial orchard, this is the only practical way except close to the trees. Here the clods should be raked out within reach of the clod crusher. Straw or chaff is a good material to spread under the trees when there are only a few in number, and we are of the opinion that it will pay when close to the vast grain-growing sections in the fig districts. This keeps the figs clean and also prevents any absorption of moisture from the soil.

Figs should never be gathered when there is dew on them. Allow them to dry off entirely before touching them. Place on trays till they are dry enough to be firm, when they can be placed in sweat boxes till they are to be packed. An ideal time for gathering figs is when the north wind is blowing.

At the time of packing the figs in boxes, the fruit should be dipped in hot water that is slightly salt. This kills the eggs of any insects that may be in them and insures against wormy fruit. The figs should be packed while still hot and nailed up at once.

SEEDLESS PEAR.

The seedless pear unlike the seedless apple is likely to be a go and a new variety has been accidentally discovered by A. I. Mason of Hood river, Oregon. All attempts so far to arrive at its origin have proved futile, but authorities on the subject say that if it continues to propagate seedless and colorless pears it will form the nucleus of one of the most valuable canning pears known. Being without core or seeds there will be no waste in putting it up, and its size and fine quality, combined with the lateness with which it comes into bearing, brings it in between the summer and late winter varieties. When ripe it is of finer quality than the Bartlett and a much better fruit for all around purposes. Several years ago Mr. Mason bought a large consignment of nursery stock from a dealer, whom he afterwards discovered had not sold him trees true to name and the seedless tree developed out of the lot. This year the tree yielded six boxes of fruit, in none of which could be found a seed or core or any indication of one except a slight mark around where the core usually is and which became visible only after the fruit had been cut in two for some time.—Field and Farm.

EFFECTS OF BLIGHT.

Continued from Cover Page

been under observation and experiment by the station to a considerable extent, culminating in the general campaign of control in the fall of 1906. The blight was extremely prevalent in the spring of 1906, and somewhat less so, but still very destructive indeed in 1907. The large acreage of peaches which received timely spraying previous to the latter season rendered the effects of the disease much less noticeable. In the unusually wet spring of 1905, it was noticed generally in the Sacramento, San Joaquin and other valleys that peach trees were affected to an alarming extent with some unusual condition. The trouble consisted in the dying of the buds on the fruiting wood, spotting of the green twigs, and dropping or non-development of the young leaves and fruit. Particularly noticeable, and the most prominent feature of the disease, was a copious "gumming," or exudation of masses of gelatinous sap from the twigs, originating in the dead spots and buds. This gumming was extremely abundant in wet weather all over the one-year-old fruiting twigs of affected trees, and with the blighted leaves and fruit and spotted, leafless, dead or dying twigs and shoots, gave the tree a most distressing and alarming appearance. The crop was entirely ruined in badly affected orchards and the trees brought into an extremely weakened condition.

This describes, in a general way, the nature of this disease. It is readily distinguished from any other peach trouble by the features mentioned. It is essentially a winter or early spring disease of the fruiting twigs, the one-year-old wood which is the valuable part of the tree. This growth becomes killed all through the tree, except in the very top, and very serious loss and injury result. Most of the infection takes place in the winter, before the new growth starts, on twigs which were healthy and free from the trouble at the end of the growing season the previous fall. The new fruit becomes affected to some extent, but the principal damage is done by the killing of the buds and whole twigs at a period previous to the development of fruit.

During 1905 and 1906 the disease occurred in greater abundance, appearing in all the peach growing sections. Santa Clara county and the Southern California peach sections were the last affected, but the blight now occurs in both regions. The losses occasioned by the "blight" have been enormous, particularly in the seasons above mentioned when climatic conditions were particularly favorable and little was done to check the disease. Indeed, it may truthfully be said that in the summer of 1906, after two years of active prevalence of the "blight," the peach orchards of the Sacramento and San Joaquin valleys, the main commercial acreage of the State, would have been in an absolutely ruined and unproductive condition without some means of checking the disease. The trouble was abundant in every orchard, all varieties were more or less affected, and the younger growth, which in the peach bears the fruit, had been almost completely killed and further development prevented. With the disease unchecked peach growing was apparently at an end.

As to control and treatment of the blight, see leading article on page 491, this issue.

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PHENOMENAL BERRY PLANTS

Place your order now for good,
strong plants. While the berries
somewhat resemble the Logan,
they are far superior for Jams,
etc. Price \$5.00 per 100, \$40.00
per thousand. Address,

J. A. Althouse
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Bulbs Bulbs Bulbs

Our first consignment of Dutch
Bulbs will soon be here. Easy to
raise, reasonable in price, and unsur-
passed for beauty of blooms. Send
for Bulb Catalogue.

Germain Seed Co. 330 So. Main St.
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2 yr. old field-grown plants.
(Plant now for Spring blooming)

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Formerly of Des Moines, Iowa, and known to
hundreds of clients throughout the Middle West,
is now located in Los Angeles with offices at 317
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rection of the most difficult cases of defective eye-
sight. Forty years of continual practice. Ex-
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PANSIES AND CARNATIONS.

IT IS NOT too late to plant pansy
seed and have them blooming
throughout the spring and early
summer. Many of the florists grow
pansy plants for sale, and where they
can be purchased and set out at once
you will get flowers sooner than by
sowing the seed now, but they will
cease to bloom sooner than plants ob-
tained from seed sown at this date.

Many failures occur in efforts to
grow pansies and other flowers from
seed for want of suitable soil. It is
much more difficult to get suitable
soil in an arid climate than in a
humid one. Soil for tender seedlings
wants to be full of humus, so that it
is light and will not "bake" or pack
down almost like cement when water-
ered. The amateur, if experienced,
will follow the practice of the profes-
sional florist in California in the mat-
ter of securing suitable soil for such
work, by looking months and even
years ahead. The soil in which I
now have pansies growing, I prepared
some two years ago, when I got ma-
nure from the dairy corral and run
it through a wire screen and added
about one-fourth common garden soil.
This was thoroughly mixed and occa-
sionally turned over until it was
rotted sufficiently for use. I invari-
ably sow pansy seed in boxes in rows
across the box about two inches
apart. These boxes or flats are usu-
ally three or four inches deep and
about 15x20 inches in size.

At this season the boxes can be put
in the full light, but should be placed
where they will not be exposed to
sweeping draughts of air, as such a
situation would cause the soil to dry
out quickly. Be careful that the soil
does not dry out and, on the other
hand, do not keep it constantly
soaked. After the seedlings are up
and show the third leaf, transplant
into other similar boxes of good soil,
putting them about two inches apart
each way. When they have grown so
that the foliage about covers the soil,
transplant them into the bed where
they are to bloom—setting them
about twelve inches apart each way.
In preparing this bed, work into it
some old well rotted manure, if it is
possible to get it.

After the plants have grown so that
they are say, four inches across,
mulch the entire surface between the
plants with manure from the dairy
corral. This manure should be
screened so that all lumps and coarse
material can be rejected. It can be
put on at least two inches deep with-
out injury. This mulching serves a
double purpose—shades the soil and
provides food for the plants.

Do not fail to give the pansy bed
sufficient water to keep it growing
freely. When the plants grow so
that they cover the entire surface, the
evaporation is very great from such
abundant foliage and no mere sprink-
ling once a day will do. You can
greatly prolong the life of the bed by
picking off the fading blooms and
thus prevent the plant from produc-
ing seed.

A great difference of opinion exists
as to whether pansies should be
planted in the shade or open sunlight.
I plant in the open sunlight, and
have perfect success up to July first.
After that date it is more or less dif-
ficult to grow pansies in any situa-
tion, except very near the coast.

I should like to speak a good word

for the tool known as a bricklayer's
pointing trowel. I have never found
its equal in transplanting almost any
plant used in ordinary gardening
operations. I have repeatedly set
3000 strawberry plants or 6000 onions
in a day of nine hours with the
trowel—something I could not have
equaled with any other tool I ever
tried—and I have tried about all of
them. They can be bought in three
sizes and cost from 40 to 60 cents
each.

Carnations.

Many persons have a few carnation
plants and would like to increase
their number. This is usually very
easy to do by using the right kind of
cuttings. Take such branches as are
vigorous and thrifty, from four to
eight inches long and that have not
developed a bud. Plant in any good
place in the open ground, being care-
ful to firm the soil well around the
base of the cutting when it is planted.
It is a good plan to mulch the soil
about the cuttings with leaves or old
straw, so that the ground will keep
cool and moist. This method can be
used from November to March. Take
cuttings from only healthy, vigorous
plants. Set them four to six inches
deep, depending on the length of the
cutting.—Q. A. L.

Six nations believe that the sun-
flower turns toward the sun and so
thoroughly are they deluded that
they call it by a name which bears
witness to their error. Thus the
French call the sunflower tournesol.
The Spanish call it girasol. The
Hungarians call it naptaforgo. Each
of these words means turn to the
sun. The English and Americans do
not go quite so far in admitting
themselves to be the plant's dupes.
They only call it sunflower. They
mean by that name, though, quite as
much as the other names imply.

A collection of primroses makes a
glorious display and may be obtained
at the cost of a few cents. The
seeds in mixture or separate colors
cost only five or ten cents a packet.
If sown in a box and well cared for
ten packets will yield plants for sev-
eral windows and some to give away.
Those desiring blooming plants for
their windows next winter should
buy a collection of primrose seeds
this spring and raise the plants. By
studying the young plants as they
grow and learning of their require-
ments a fine display of bloom will be
insured.

Mrs. Nayberleigh—Why, what are
you crying about?

Mrs. Youngbride—Well, you know,
John is away on a business trip—

Mrs. Nayberleigh—Yes.

Mrs. Youngbride—He writes that
he gets out my picture and k-kisses
it every day.

Mrs. Nayberleigh—Well, that's
surely nothing to cry about.

Mrs. Youngbride—Yes, it is! Just
to play a joke on him, I took my
picture out of his grip when he
started, and put one of my
m-m-mother's in its place.—Cleve-
land Leader.

Christmas, to some, is a painful
thought; kind of a nightmare in the
daytime, from now till Christmas
morning on account of the old custom
of giving expensive presents. Our
offer on the editorial page of this
week will simplify matters for you in
many cases. Look it up.

LILLY'S BEST NORTHERN GROWN SEEDS

Are tested and proved best
for the West—all other sorts
being discarded. Why experi-
ment, why take chances?
You can absolutely depend on
LILLY'S seeds. Our catalogue
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from actual photographs,
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SOLD BY DEALERS
The Chas. H. Lilly Co.
Seattle, Portland, San Francisco.

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A Fine Stock in Varieties of
Shrubs, Vines, Palms and
EUCALYPTS ROSES

A Fine Assortment for Coming Season.
Our new Catalogue, profusely illustrated,
just off the press. Write for it.

Armstrong Nurseries
Ontario, California

Plant Strawberries

I have strong, nicely rooted plants
of the following varieties and can fill
promptly:

Brandywines,	\$2.50 per 100
Excelsior,	\$3.00 per 100
Texas, (Burbank Beauty)	\$3.00 per 100
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Other varieties later, also full line
small fruit plants. If interested, men-
tion this paper and send for catalog.

G. H. Hopkins, Burbank, Cal.
Fairview Farm Nursery

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French Prunes and
Cots, Muirs and
Clings, and many
varieties of Peach
all fine budded
Large stock of all
leading varieties of Apples, grafted on whole
and free from all pests. Also a fine stock
Cherries, Pears, Plums, etc. Send for price
A. E. SCHEIDTKE SEBASTOPOL,
Prop. Pleasant View Nursery.

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Everything in plants and trees of the
highest grade. Catalogue explains all

Germain Seed Co.

330 So. Main St., Los Angeles, Cal.

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C. Bagnall, Prop.

GROWERS AND IMPORTERS OF

Grass, Vegetable and Flower Seeds

All Kinds of Bulbs and Onion Sets

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Send for Catalogue. Please mention Cultivator

CRIMSON WINTER RHUBARB

\$1.50 per dozen; \$6 per 100; \$40 per 1000. Plants
and get returns next winter. Pedigreed plants
only.

J. B. Wagner

The Rhubarb Specialist Pasadena, Cal.

Burbank Crimson Winter Rhubarb

Plants and Seed for sale in any quantity. War-
ranted the genuine article. Orders filled promptly

A. L. Fratt, Ventura, Cal.

Balfour, Guthrie & Co.

IMPORTERS OF

THOMAS PHOSPHATE POWER

AND

NITRATE OF SODA

SAN FRANCISCO FRESNO LOS ANGELES

WRITE FOR PAMPHLET AND PRICES

The Vegetable Garden

THE MAGIC VINE.

A fairy seed I planted
So dry and white and old;
There sprang a vine enchanted
With magic flowers of gold.

I watched it, I tended it,
And truly, by and by
It bore a Jack o'lantern
And a great Thanksgiving pie.

ROSELLE MILDEW.

ROSELLE or Jamaica Sorrel (Hibiscus Sabdariffa) was attacked last year by mildew. It was about the first of November. Those who have planted roselle this year should keep on the lookout for it. The mildew is characterized as follows: The leaves, petioles, stems and sometimes the entire plant assume a white powdery appearance as if they had been lightly dusted over with flour or lime. The appearance comes on quite suddenly. It usually follows the cool, moist nights that occur about this time of the year. The vitality of the plant is probably weakened by the drop in the temperature, and this renders it more susceptible to the attack of the mildew. Leaves attacked by the mildew soon begin to look unhealthy, and turn slightly yellow.

The disease is caused by a white mould-like fungus, known scientifically as a species of Microsphaera. By means of a hand lens one can observe the network of very minute white mycelial threads on which there are borne upright chains of small spherical spores. These spores may be carried by the wind or insects from one plant to another, and in this way spread the disease rapidly to great distances in a short time. In the course of several weeks, if the fungus is not killed, the powdery appearance disappears, and on the threads are seen minute black specks. These contain the spores that are able, like seeds, to live through the winter months and reproduce the mildew the following year.

The treatment recommended for this disease is to spray the plants as soon as the white appearance is noticed with potassium sulphide (liver of sulphur,) using one ounce to two gallons of water. Dissolve the potassium sulphide in water just before using, and in case any of the solution is to be kept for later spraying, put it in a tightly corked glass bottle. As an additional preventive for the following year, all dead plants should be burned up after the fruit is picked, in order to kill the resistant spores that would otherwise live over winter on the dead leaves and stems and infest the next year's crop.—Florida Agriculturist.

THE TOMATO WORM.

This sometimes troublesome insect is the larval form of one of the sphinx moths. The caterpillar is distinguished by the presence of a peculiar horn on the tail, which is commonly supposed to be venomous. As a matter of fact, it is absolutely without poison of any kind, and the worm may be handled with impunity by any one. The insect passes the winter in the resting or pupal stage in the ground, and many of them will be destroyed by thorough cultivation. In small gardens where the worms are doing any considerable damage they may best be removed by hand picking. Large fields that are badly

affected should be sprayed with Paris green early in the season before the fruit attains any size. This will probably remove most of the brood and make the matter of hand picking the few that remain a comparatively easy task. Often this insect is attacked by a parasite fly that lays its eggs on the body of the worm and eventually causes its death. The small cocoons of the fly are sometimes to be found sticking all over the bodies of the caterpillars. Such specimens should be allowed to develop, as they are doomed to an early death, and by allowing the flies to reach maturity they will in time get the best of the worm.

GARDEN NOTES.

Why not repair the garden fence now? Plow in lots of barn manure now.

Put the garden seed you gather where rats, mice or other enemies can't destroy.

Have enough seed on hand so that when you are ready to plant you will have enough to plant two or three times, in case you fail the first or second time.

Celery is very greatly improved in quality when conditions are made favorable for rapid and continuous growth, and also largely increased in yield. As high as 400 pounds of nitrate of soda have proved most profitable.

Pile and burn all the trash in the garden. In this way you will destroy insects and their eggs.

Clean off the asparagus beds and give a coating of manure.

Get after the borers in apple, peach and plum trees. Try a wire first. If not successful use knife.

Cold storage demands fruit that is picked, packed and shipped with great care. Pruning, thinning and spraying are essential processes.

When the work of harvesting fruit is completed, gather up all rubbish and burn.

Better find out if your young orchard needs under-drainage. It is not too late to put in a system of tile drains four feet deep.

Chinese bottle gourd are both useful and ornamental. They raise their own covers to a wide necked bottle so you can put the "lid" on when it suits you.

The quickest way to get a taste of onions in early spring from your own garden is to plant winter onions now. Get Egyptian onion sets and you will have something to stir your blood next March when country people feel as if they ought to "take something."

Ten years ago there were only seven hundred cars of cantaloupes handled by the railroads in the United States. Last year the shipments of this fruit reached nearly ten thousand cars.

Notwithstanding the large production of edible nuts in this country, the importations are steadily on the increase. It seems that it will be a difficult matter to overstock the market, especially so as the demand for nut products is steadily increasing.

The sixth annual convention of the National Nut Growers' Association was held at the Jamestown Exposition, September 26-28. It was attended by interested parties from eighteen States, which shows that the industry is gaining rapidly in all parts of the country.

Q. A. LOBINGIER

J. W. BODWEN

San Gabriel Garden Co.

STRAWBERRY SPECIALISTS

Sunset Phone 276

Grounds, 1 Mile S. E. of Mission

San Gabriel, Cal.

It is not boasting, but simply stating a fact when we say we have had the largest return from strawberries the past season that has ever been recorded. We consider the quality of the plants we used one of the important factors in obtaining this result. Our plants are grown with all the skill and care that forty years' experience can suggest. Write us for leaflet telling how. The Brandywine is the only variety we grow. Plants ready for shipment January 1st, and we do not think it possible to produce better stock that we offer. Intending purchasers cordially invited to inspect our grounds.

Fruit Trees

Thousands of dollars saved by farmers by patronizing us. 50,000 Lob Ingir Smyrna Fig trees, 4 to 6 ft. in lots of 100 at \$12.50; 500 and up at \$100.00 per 1000.

We won the Gold Medal at the Lewis & Clark Exposition. This is the world famed Fig of commerce.

We have a large stock of Bartlett Pears, Royal Apricots, Orange and Lemon trees, as well as other nursery stock.

Bed rock prices. Send in list of wants. Address

Maywood Colony Nursery, Corning, cal.

W. Herbert Samson, Prop.

My Free Catalogue Now Ready

Giving Cuts and Descriptions of

The Superlative Raspberry

The Golden Drop Gooseberry

The Ponderosa Lemon

The Giant Bishop Black Currant

The Dollar Berry, Strawberry

The Giant Crimson Winter Rhubarb

The Australian Brown Onion

The Baby Rambler Rose, Etc.

A. MITTING, 17 to 23 Kennan St., Santa Cruz, Cal.

The Butterflies of the West Coast

A new book, with 940 life-size photos of real butterflies, colored, in best modern color-photography and with letter-press description, of every species on the coast.

For Libraries, Students, Experts, Tourists

For everybody who knows or wishes to know, about Coast Butterflies. A book that is authoritative; exhaustive; complete; the only book in its field; good for all time.

Large royal octavo; fine paper; fine full-page plates; well printed, well bound. Price, ten dollars, postpaid.

Also, for beginners, and for a field handbook, an edition of Plates only; all species are named so that any butterfly met with can be named, with index, but no descriptive text; bound in silk cloth, price \$1.50 postpaid.

For either book, or for further information, address the author,

W. G. Wright, 445 F Street, San Bernardino, Cal.

Newbert's Phenomenal Berry

The World's Wonder

It will make you more profit to the acre than any berry that grows. \$1400 actual profit has been made from one acre of this most wonderful berry. It is the largest berry that grows, a bright, rosy red and a great shipper. For pies, jams, jellies, etc., it has no equal. I grow no others. You can make no mistake by buying of me.

Place Your Orders Now

Don't wait. Last year I turned down many an order. Write for one of my handsome circulars. It's yours for the asking.

PRICE—\$1.00 Dozen; \$45.00 Thousand

F. M. Newbert

Palmetto Heights

Sacramento, Cal.

200,000 Eucalyptus Trees in Variety

Transplanted in flats of 100 each. We prefer orders of 1000 rather than 10,000; outside limit 20,000. Our trees are up to our usual standard. We invite correspondence. Our booklet, telling when, how and what to plant, free to our patrons only. Address

W. A. T. Stratton, Nurseryman, Petaluma, California

PESKY THIEVES.

And now it seems that W. M. Bristol is to be again arrested and tried for the heinous crime of protecting his crops against the depredations of quail by trapping the pesky little thieves. If a man cannot protect his ripening crops, raised at the expense of much toil and perspiration, against predatory animals and birds, simply because the wealthy and leisure class desire "sport" in shooting them, meanwhile trampling down those same crops with their "English shooting boots," then, indeed, it is time for the common people to rise up in their wrath and relegate legislators who make such fool laws to the way back seat and set them down so hard that it will rattle their loose bones out of place. We have suffered from predatory and pesky quail ourself and know how to feel for the other fellow.—Redlands Citigraph.

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H. A. PERKINS, Manager

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Q. A. LOBINGER	Vegetable Garden
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RALPH E. SMITH	Plant Pathology
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THANKSGIVING AS WE KNOW IT.

We have departed from the original idea of Thanksgiving Day as observed by our forefathers, quite as widely as from any single idea involved in their primitive teachings. Their idea of Thanksgiving was that of self-denial, fasting and prayer. They were beset by threatening foes, by hardships of every nature conceivable, and their only resource seemed to be to turn to the giver of all good gifts, in appeal for protection against the dangers which confronted them.

The painted savage of the forest lurked threateningly in their wake, distance from house and kindred rendered unspeakable loneliness to their situation, hunger often assailed them as they attempted to wring from a rocky soil the necessities of life. Prayer was their daily consolation for that safe deliverance which of themselves they could not procure.

As the years rolled on the primitive puritan changed into the progressive and plentifully supplied New Englander. Abundant crops garnered into bursting barns gave sufficiency everywhere. The Indian no longer roamed the forests the foe of the white man. The forests disappeared, and with this changed condition came the celebration of generosity, of plenty and thanksgiving to God for the mercies and benedictions which His love had bestowed. From abstinence and prayer came eating and drinking, and a festal day of family reunion.

And so, today, we commemorate with joyousness, around the festal board, the blessings of the year gone by. We are devoid of fear, and we look calmly and with assurance into the future, with a well developed idea that no danger is likely to

confront us nor an enemy destroy us. While this is true in the abstract it is a matter of deep concern to those more thoughtfully inclined, if indeed we are not going at too rapid a pace as a people. Are we not drifting too far from the landmarks of the fathers? Are we not inclined to forget in our wondrous prosperity, to whom we are indebted for our blessings? So surely as we do, we shall be called to account. Disaster will overtake us and we shall reap the whirlwind if we sow to the wind.

Back of all our splendid growth, our development and our luxury is the same power which befriended our forefathers. To this supreme power must we still account. May we not well remember our blessings, our mercies and to whom we owe our greatness as a Nation?

May we not reflect, amid the joyousness of Thanksgiving Day, that we still must hold this guiding force near to us if we are to go on in the course mapped out for us? Assuredly we ought, for certainly we need whatever guiding power there may be to help us, to keep us, to steady us in our onward sweep of destiny.

NO CAUSE FOR PANIC.

"What is most needed just now is that our citizens should realize how fundamentally sound business conditions in this country are, and how absurd it is to permit themselves to get into a panic and create a stringency by hoarding their savings instead of trusting perfectly sound banks. There is no particle of risk involved in letting business take its natural course, and the people can help themselves and the country most by putting back into active circulation the money they are hoarding.

"The banks and trust companies are solvent. There is more currency in the country today than there was a month ago, when the supply was ample. Since then \$55,000,000 in gold has been imported, and the government has deposited already \$60,000,000. These are facts, and I appeal to the public to co-operate with us in restoring normal business conditions.

"The government will see that the people do not suffer if only the people themselves will act in a normal way. Crops are good and business conditions are sound, and they should put the money we have into circulation at once to meet the needs of our abounding prosperity."—Theodore Roosevelt.

The above is a portion of the letter written by the President Nov. 17th to Secretary Cortelyou, approving his plan of issuing \$50,000,000 of Panama bonds and \$100,000,000 interest government notes, to be available immediately in the South and West as additional currency to help in the movement of crops. This is the most important measure of relief adopted since the money stringency occurred. It will, with the president's letter, do more to re-establish confidence in business than anything which has been done to that end.

JUST THE TIME TO ADVERTISE.

One of the most successful managers of a great commercial property in California, remarked to us recently that he always advertised most largely during times of business depression. Said he: "When people are not so crowded with work they take time to read what the commercial houses in their locality have to say about their business. I often get pointers which are valuable to me, and see things advertised which I want later; I know just where to go for them when I am ready to use them."

Another advertiser said: "When times are dull advertise extensively. There is plenty of money in the country and people will buy what they want when they think there is a bargain for them."

A. T. Stewart used to say that dull times made a later harvest for the enterprising merchant who had nerve enough to display his goods in type, when things in general were going slow. When business is rushing people do not read as extensively as when they have greater leisure.

The man who advertises is the man who wins—in the long run.

It is to be hoped the Secretary of the Treasury will bring those New York banks to time by withdrawing government deposits, unless they immediately pay the Western banks the balances due them. It is this monstrous action of those banks which has tied up the circulating medium of the West and crippled every industry.

Shop Talk

A CHRISTMAS SUGGESTION.—To our many readers who appreciate the Cultivator and its efforts along the various interests of California agriculturally—what more appropriate Christmas remembrance to your relatives or friends, than your year's subscription to our paper.

For a son, daughter, brother or friend starting in on the ranch, you know the Cultivator would prove an invaluable teacher. No matter whether in this State or "back East," they are interested in California methods and crops, and, perhaps, thinking of coming to this Coast.

NOTE.—We are going to make this suggestion to your advantage to you as well as everybody else by crediting your subscription account three months for each new name that you send. So you see you are killing two birds with one stone by making a very acceptable present and getting your own paper at a reduction of 25 per cent.

Also, to save you any bother in the matter, we will mail to each person to whom you desire the paper sent, so as to reach them at Christmas, a card giving your name as donor, and length of the subscription.

Just fill out the blank found on another page marked "Christmas Order;" cut it out and mail it to us with P. O. money order, and we will do the rest. Understand that the new subscription will be stopped at expiration.

A SENSIBLE MOVE.

Bill board advertising is receiving severe criticism at the hands of civic societies in this State and throughout the country at large.

The ugliness of the bill board appeals to the mind of every man and woman who desires to see a clean country, or a neat town. You can have neither so long as the unsightly billboard is in repulsive evidence wherever you look.

We note with satisfaction the effort of civic clubs to do away with the offensive bill board, and especially such action as was taken by three hundred merchants of Cincinnati who have made an agreement that they will do no more billboard advertising, and will utilize nothing but newspaper space for that line of advertising.

From a business point of view, billboard advertising is an almost worthless proposition, and the action of these Cincinnati merchants simply reflects the growing conviction in the mercantile world that advertising is an art—or a science—which ever term is most acceptable, and that the indiscriminate plastering of advertising matter over billboard acreage, either with a paint brush or coarsely printed blanket sheets, is neither artistic or scientific, and the tendency of which is to repulse rather than attract.

Commenting on this phase of the subject, the Des Moines, (Ia.,) Capitol says:

"The place where the advertisement is given that serious consideration which is of value to the advertiser is at the home fireside. It is there that the wants of the family are suggested. It is there that the needs of individual members are discussed. To the newspaper they turn for information as to where to go. The farsighted merchant understands the situation and spends his advertising money with the newspapers which will reach the people, rather than with the billboards whose only function is understood to be that of a background for the portrait of some theatrical celebrity who prefers the paint-brush method of attracting public attention."

The Cincinnati merchants have tried various ways of advertising, but they unanimously agree that the newspaper is the medium which outshines them all.

A DEEP LAID PLOT.

The opinion is becoming general throughout the country that the present financial flurry is chargeable directly to J. P. Morgan, John D. Rockefeller and one or two presidents of the great railroad lines of the country, whose purpose has been to discredit Mr. Roosevelt and to be avenged for their prosecution by the government for violation of law.

If this idea shall become fixed in the mind of the public, nothing in the world will prevent the re-nomination and overwhelming election of Theodore Roosevelt as the next president of the United States. The country is behind the president, irrespective of politics, in his determination to enforce the laws of the land.

Agricultural Notes of the Pacific Coast

Northern California

Colusa has a successful horseradish grower.

Pheasants are being introduced in the hills near Tehama.

The recent farmers' institute at Napa was very successful.

Many homeseekers are locating on farm lands near Willows.

A large meeting of forest rangers was held at Yreka last week.

Laterals are being dug in a large irrigation system near Colusa.

One farmer near Coos river has installed three milking machines.

Big ranches about Stockton are being subdivided into town lots.

Siskyou county is shipping a large number of live stock every day.

Sacramento Driving Club is to hold a horse show on Thanksgiving Day.

Spraying to prevent peach blight is common all over the Sacramento valley.

Yuba county produced \$500,000 worth of vegetables and fruit last year.

For the first time in twenty years, Petaluma will have a poultry show this fall.

One ranch will put in over a thousand acres of alfalfa near Willows this season.

Rye grass is proving to be extremely satisfactory pasturage grass in Butte county.

Six hundred dollars per acre has been made from an acre of potatoes near Placerville.

Some magnificent barley has been produced on overflowed river bottoms near Woodland.

Stockton canneries are contracting with growers for a larger quantity of tomatoes next year than heretofore.

A forest ranger near Weaverville has been arrested for removing earmarks from cattle and substituting his own.

Santa Rosa turkey breeders are receiving eighteen cents for live turkeys. It is said to be a great turkey shipping point.

The vineyards at Chico are being cleared of their leaves and late fruit by the Stanford sheep which are being pastured in them.

Petaluma claims to have a million and a half of White Leghorns to choose her winners from for the coming poultry show.

The common "resin weed" (*Grindelia robusta*) is being shipped in large quantities from Colusa to Detroit and New York druggists.

Oroville is not entirely given over to the production of oranges, as is proved by the fact that her county produced \$526,000 worth of poultry and eggs.

The Santa Rosa members of the Sonoma County Co-operative Poultrymen's Association have elected F. W. Wilson president and C. A. Williams secretary.

Grapes that were to be shipped to New York from Yolo county have been diverted to the northwest and other nearby points, because of injury from the recent rains.

Central California

Shippers at Sacramento are combining to fight freight rebates.

Turlock cannery is putting up hundreds of tons of canned pumpkin.

The Malaga packing house has one hundred hands employed packing raisins.

One Tulare county planter will plant four hundred acres of oranges this season.

A two hundred-acre field is soon to be planted to onions for seed growing at Gilroy.

The Santa Clara county Pomona Grange held an interesting session on November 9th, at San Jose.

While Lindsay will make a good display of her own citrus fruits she will not compete in the coming citrus fair.

The Pajaro Orchardist Association met recently and received report from Chairman Judd of the fair committee.

The Pajaronian maintains that the State Farm at Davis is not being put into working shape as rapidly as it should be.

The apple growers of Gilroy recently held an interesting meeting addressed by Mr. Vlock, entomologist of Santa Cruz.

The Hanford Sentinel says that the Selma Irrigation District, which was organized under the Wright law, is to close up its business.

Total shipments of citrus fruits from Lindsay were seven hundred and fifty-five cars last year, and to date this season ninety-eight cars.

An advertisement in Lindsay Gazette asks for orange pickers at three quarters of a cent a box with a 40-cent daily premium for good workers.

The directors of the Lucerne creamery at Hanford for the coming year are: J. H. Dawson, G. A. Dodge, L. F. Burr, John Nesbit and M. J. Caetano.

Corn growers on the Merced river bottoms are getting eight cents per pound for corn husks. It will be used, it is claimed, for adulterating cheap tobacco.

The winerymen and others purchasing fruit near Fresno have been paying for fruit with notes bearing six per cent interest payable on cashing of bills of lading in the East.

The Lucerne Cream and Butter Company at Hanford marketed last year nearly a million pounds of butter of the value of \$306,662. The average price received was 29.46 cents.

A pastor in Bakersfield suggests that Kern county people after giving thanks as usual on Thanksgiving they should return thanks to Mr. Tevis for his service to that county in cutting up the large Big Field ranch.

Report from Lindsay shows the citrus fair is going to attract more attention than ever before, and preparations are nearly completed for its opening which is to be on December third. Its premium list shows that a large list of awards will be made in addition to those for citrus fruits.

Southern California

Hemet is soon to be incorporated.

Santa Ana poultry show opens next week.

The spud crop at Hemet looks very promising.

The celery market is reported not so good as last year.

The first shipment of oranges from Redlands was on November 15th.

San Bernardino county's oranges last year made a gross return of over \$7,000,000.

Wagner, the Pasadena rhubarb man, is to start a rhubarb nursery at Coachella.

Ventura Free Press estimates the output of lima beans at forty-nine million pounds.

Orchardists of Orange are to form a protective association to prevent fruit stealing.

Orange county is to have another celery-growing district at Aliso south of Tustin.

Bean ranchers of Oorange county are pushing their product to market as fast as possible.

The water in Lake Hemet registered 109 feet 8 inches Nov. 15, at the close of the irrigating season.

The Orange County Preserving Company has an output this year of thirty thousand cases of tomatoes.

The threshing machines of Ventura county are working day and night on the remainder of the bean crop.

C. E. Utt, the king of peanut shippers at Tustin, suffered a serious loss from the burning of his dryer last week.

Valley Center, San Diego county, claims ability to produce just as good apples as some of the higher mountain sections.

Ventura produces one million pounds of rhubarb annually, and her total agricultural output aggregates \$8,500,000.

Imperial county stockmen are organizing to secure the enactment of county laws for the protection of their industry.

The little town of Orange expressed twelve hundred and fifteen sacks of peas and beans to the local Los Angeles market last week.

The California Development Company and the Southern Pacific gang on the Colorado river levee has been somewhat reduced, owing to the money stringency.

The damage to the bean crop by the recent rains is found to be much lighter than anticipated. Not over two per cent of the crop will be injured, is the estimate of some.

We recently noted in these columns the record breaking load of walnuts at Saticoy which commanded \$1300. This is put in the shade by a Ventura rancher, James Evans, who delivered a ten-horse load of walnuts which weighed ten tons for which he received \$2760 check.

The officers and directors of the Redlands Mutual Orange Company for this year are: Geo. R. Stone, vice-president; A. B. Cowgill, secretary; Charles F. Woehr, Burgis W. Smith, R. B. Lane, A. K. Smiley, Dr. C. S. Lombard.

The Coast

The fourth crop of alfalfa is being cut at Crocker, Washington.

Walla Walla, Washington, is proving to be a great potato shipping point.

The hay crop near North Yakima has not been damaged by the recent storm.

A large cannery at Walla Walla, Washington, is putting in full time on canning apples.

Farmers about Grangeville, Idaho, will make about \$1,000,000 on their live stock this year.

One carload of clover seed shipped from Albany, Oregon, netted the snug sum of \$12,000.

Spokane cannery has already shipped forty carloads of canned fruit to Eastern markets.

A fruit grower at Wematchee, Washington, took \$1000 worth of apples from forty-eight trees.

Gov. Chamberlain, of Oregon, has appointed Robt. O. Stevenson forestry warden for that State.

The breaking of a large dam above Wallace, Idaho, caused the flooding of vast acreage of hay fields.

The price of butter in Portland has been held at 35 cents, which is held to be too high and will soon drop.

Between sixty and seventy thousand tons of hay are shipped from Ellensburg, Washington, this year.

W. K. Newell, president of the Oregon State of Horticulture Society, figures that the State will receive about \$4,500,000 for fruit this year.

Idaho State has selected eighteen thousand acres in one county which it leases at ten cents per acre for dry farming purposes.

Co-operative Creamery at Rifle, Colorado, will soon pass into private ownership, the co-operation not having proved successful.

State sheep inspector of Oregon is enforcing the law which prohibits sheep from entering the State from Washington without permit.

Apple shipments from Pullman, Washington, are being restricted by car shortage. One firm has thirty carloads ready for loading, and some of the largest graneries are filled to the

The Oregon prune market has been seriously affected by the money stringency, and some packers have notified growers to whom they have contracted fruit, that they will be unable to complete the contract.

The Portland Oregonian estimates the hops on the coast as follows: Oregon, 100,000 bales; California, 50,000; Washington, 17,500. Besides this, 50,000 bales of last year's crop are held over in dealers' hands. roof with apples ready packed.

The Lane County Fruit and Vegetable Growers' Association with headquarters at Eugene, Oregon, proposes to raise the standard of the fruit shipped from that section and make the reputation as shippers of fine fruits.

The great inland empire of Eastern Washington will have an output of \$128,000,000 worth of agricultural outputs. Of this the wheat crop alone will amount to, \$32,500,000, and dairy products \$5,000,000. Apples and other fruits \$14,000,000.

PER
2 BUSHEL
SACK

\$1.90

PER
2 BUSHEL
SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by all largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland.
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis and Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

Beef Scraps Raw Bone

GUARANTEED ANALYSIS:

Protein.....65%
Fat.....8%

Made of Cooked and Dried Livers, Lungs, Melts and Clean Scraps. No fertilizer ingredients in these Beef Scraps.

Pure, Clean Animal Matter Poultry Foods

WESTERN MEAT COMPANY SOUTH SAN FRANCISCO CALIFORNIA

GUARANTEED ANALYSIS:

Protein.....25%
Phosphates.....45%

Made of Clean Beef Bones, surplus fat removed. Cleanest Raw Bone on the Market.

FERN PARK POULTRY RANCH

EGGS FOR HATCHING

All Eggs are from good, strong vigorous stock.



WYATT & WOLLITZ, Proprietors

—Breeder of—

Single Comb Buff Orpingtons
White Rocks and
Indian Runner Ducks

Orpington and Rocks \$2 per setting; \$6 per 100.
Duck Eggs \$1.50 per 12.

Write your wants. Correspondence carefully answered.

Box 298.

WYATT & WOLLITZ, Corona, Cal.

Beef, Blood and Bone Will Make Your Hens Lay

This is not a medicine but a high grade nitrogenous food. Write for free booklet "How to make Hens Lay." Our Poultry Foods are sold by all local dealers and manufactured solely by

The Pacific Guano and Fertilizer Co., Indiana and Yolo Sts., San Francisco, Cal.

Also Pioneer Manufacturers of High Grade Fertilizers.
Write for our free booklet, "Farmer's Friend." Valuable to all farmers and ranchers.

Mammoth Bronze Turkeys

Well Bred, Carefully Selected Cockerels
Good Style, Good Size, Pure White Birds

One and Two Year Old Hens and
Early Hatched, Well Matured Toms

For Breeding

S. C. White Leghorns

Eggs for Hatching, Any Quantity

No trouble to answer inquiries. Satisfaction guaranteed.

Stuhr-Williamson Poultry Company

378 Bandini Ave.

Home Phone 149

Riverside, Cal.

White Rocks

Our fall matings will be made so as to supply eggs by Nov. 1 from some of the finest pens we have ever handled. Eggs, \$1.50 to \$2.50 per 12—\$8.00 to \$12.00 per hundred.

White Leghorns

We can supply eggs after Nov. 1 in any quantity. Stock the best on the Coast. Eggs, \$1.50 to \$2.50 per 12—\$8.00 to \$10.00 per hundred. We have some of the highest scoring fowls of this variety in America. Eggs after Nov. 1. Eggs, \$2.00 to \$5.00 per 12—\$10.00 to \$20.00 per 100.

Black Langshans

Watch our show record during the Poultry Shows.

Foster's Poultry Yards, 128 W. Avenue 41, Los Angeles

Phone
East 915

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experiences with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

A THANKSGIVING OFFERING

"Come, hear the tale I would unfold," said the gobbler to his flock,
"For what the stars this day have told has given me a shock.

"The zodiac, in days of old, with twelve signs are complete,
But woe is me, this day I see, thirteen are on the sheet!

"The last, a man with ax in hand, and blood within his eye,
Determination on his face, and teeth for turkey pie.

"I hied me to the Oracle to see what did portend,
And this is what he calmly said, 'I see your blooming end.'

"This man will grab you by the feet, with ne'er a chance to peck,
And though the ax is in his hand, you'll get it in the neck.

"Don't think that to your memory he'll offer up a toast;
But on the other hand, I see you'll get a frightful roast.

"And when you're roasted to a turn, the tale is not half told;
For while he likes you served up hot, you are not bad sliced cold.

"You think your finish then you've seen—it were a view quite rash;
This ruthless man with heart of stone will chop you into hash.

"E'en then he will not stay his hand—he'll make another swoop.
And at the end you'll surely find you've landed in the soup."

The Gobbler paused and wiped his eye, and then he simply said:
"My friends, if all of this is true, there's lively times ahead!"

R. L. COURTNEY.

AN OLD TIME THANKSGIVING.

MANY think that Thanksgiving was inaugurated simply to depopulate the country of the "American bird"—the turkey. In fact, Thanksgiving and turkey are synonymous with many. The use of the turkey for the Thanksgiving dinner has become so general in all walks of life that it is often a problem not only in the large cities, but even in the country, to provide a sufficient number to supply the demand.

It is no wonder our hearts turn to olden times when we hear our parents and grandparents tell of their childhood days when the Thanksgiving gaities lasted for several days. And how on Thanksgiving Day the whole family, comprising often three and four generations, would gather for a day or more of general Thanksgiving gaities. With a good supply of nuts, fruits, apples and elder, they would gather around the old-fashioned fireplace with its huge back-log, and listen to the older members tell how in pioneer days they would hunt the turkey which was to grace the table on this memorable day.

I remember on these occasions how attentive we always were when grandfather would tell us of one of his wild-turkey hunts, back in Eastern Kentucky and Virginia—and how, as the country became more thickly populated, the turkeys became scarcer and scarcer. They either moved westward down the Ohio River, or east to the Allegheny mountains. When grandfather was a boy, all that was necessary

when a turkey was wanted was to take the old flint-lock rifle and go early, yes, before it was fairly light, to some familiar feeding ground of the birds and there wait in hiding until about, or a little after, "sun up" for the flock to make its appearance. I remember how excited we would get when he would tell of the first call of the "gobbler," perhaps a mile or more away, and as the flock would approach and the calls would grow more distinct, and how the trained ear of the hunter would gauge the distance. How, often before they came in sight, the calling would cease, caused perhaps, by the barking of some squirrel or the falling of a nut which was loosened by the frost of the previous night.

Often when he was beginning to get discouraged, he would again hear the distant call. It would grow louder and more distinct until at last just as the first rays of the morning sun struck some unprotected spot the flock, always headed by an old "gobbler" would come into sight. What a grand picture that would make. The glistening white frost on the fallen leaves of many variations in colors; the strutting Tom with his bronze color, proudly leading his flock, yet always alert and looking for some hidden danger.

How grandfather would sit in a cramped position, his feet and fingers stinging from the biting frost, yet not daring to move, for a sound even of a broken twig would send the whole flock scurrying away. How he would longingly look at his priming and the old flint to see if all was ready for the fatal moment he would relate in a way to make us tingle. All was ready. Yet they were not close enough to risk a shot. How his heart would thump until he was sure it could be heard a mile. Yet the flock was steadily advancing. Then he would raise the long rifle and the trained eye would look down the barrel, only to lower it again. Never shoot till you can see the bird's eye.

Again he sights the trusty old gun that has never failed him. Bang! Before the smoke clears away he springs from his hiding and starts at best speed for the ravine which runs up the side of the low mountain. Up this ravine the flock speeds as fast as legs and wings can carry it. Upon this mad race, for two miles up the side of the mountain, much depends. Over boulder, around a tree, here jumping a ditch, never stopping a moment for breath, loading as he ran, until the summit is reached, only to see the last of the flock plunge into the heavy timber and out of sight down the side of the mountain.

Now he returns down the trail. He takes more time, as all chance for another shot this morning is gone. He retraces his steps to the scene of the hiding and gets his turkey. In those days such a thing as a clear miss was unheard of.

How the folks from the little house in the clearing anxiously watched for his return. For, oh, so much depends on that early morning journey!

Lost Feathers

Feathers on the ground and dropping from sleepy, droopy, half-sick hens—that's moulting time, when egg production usually ceases.

Mr. Poultryman, it's now up to you to restore the weakened hens to normal vigor and put them in proper trim for a large egg yield through the coming winter. Give them each morning

DR. HESS Poultry PAN-A-GE-A

in the warm mess. It vitalizes and "tones" the drooping bodies, aids digestion and carries off the clogging poisons that weaken and debilitate the hen. Thus it shortens the moulting season and hastens the return of productiveness. Poultry Pan-a-ge-a is the prescription of Dr. Hess (M. D., D.V.S.). It makes hens lay, market fowls fat, chicks grow fast and also wards off all poultry diseases. Endorsed by leading poultrymen and sold on a written guarantee.

Costs a penny a day for 80 fowls.
1 1/2 lbs. 35c. 5 lbs. 85c.
12 lbs. \$1.75. 25 lb. pail \$3.50

Send 3c. for Dr. Hess 48-page Poultry Book, free.

Dr. HESS & CLARK,
Ashland, Ohio.

THE PETALUMA INCUBATOR CO.,
PETALUMA, CAL.
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**Instant Louse Killer
Kills Lice.**

Do You want the Breed That Lays

the year around and brings \$1.00 each when sold to market? Our **BUFF ORPINGTONS** are that kind. Write for show record never equalled on the Pacific Coast, Catalogue, and prices.

Mr. and Mrs. W. S. Sullivan
Agnew, Santa Clara Co., Cal.
State V. P. Nat. S. C. B. O. Club.

Spargur's Trap-Nested White Leghorns

Laying Pullets six and seven months old from above hens, at \$15.00 per dozen. Also I. R. Ducks and Drakes at \$9.00 per dozen.

H. G. Spargur, Soquel, Cal.

Newbert's White Leghorns

Are the best in the State. I proved it at the last State Fair, winning four of the five firsts from the best breeders in the State. Hatching Eggs, \$6 per hundred, \$1.50 and \$2.00 per setting.

F. M. Newbert - Palmetto Heights
Sacramento, Cal.

BARRED ROCKS EXCLUSIVELY

Send for Sixteen-Page 1906 Catalogue

H. R. CAMPBELL
BOX O PETALUMA, CAL.

Baldwin's White Leghorns

First prizes San Jose '06, and State Fair '07. Fine youngsters at reasonable rates. Good older stock cheap to make room. Full description of stock and price list mailed free on application.

Frank E. Baldwin
46 Washington Ave. San Jose, Cal.

I Don't Want Them Do You?

Mann's Clover Cutter, Daisy Green-Bone Cutter, Wire Fence Machine—weaves fence, any height up to 60 in. and any sized mesh from 1 to 12 in. All of the above are in perfect order and will be sold at a bargain.

W. W. BLISS, Duarte, Cal.

WHITE AND BUFF WYANDOTTES

And Golden Sebright Bantams, prize winners. Stock and Eggs in season.
M. E. Dillingham, Box 67 San Gabriel, Cal.

WHITE WYANDOTTES EXCLUSIVELY

Good, White, Typical Birds. Stock and Eggs For Sale.
W. A. SEYMOUR
470 No. Beaudry Ave. Los Angeles, Cal.

When writing advertisers, mention Cultivator

How different today, for those of us who raise our turkeys only have to dress our birds. Those who are less fortunate and have not the room or inclination to raise a Thanksgiving turkey, simply step to the phone and, calling up the butcher, orders a nice fat turkey sent over for Thanksgiving dinner.

As the world grows older neighborhood friendship grows less, and places us further from each other in this pleasant Thanksgiving intercourse. Well may the stories told to us by our fathers and grandfathers, of the "back East" Thanksgiving, be taken to heart by all of us, and applied at this season, especially in improving friendships and binding more securely the interests of the neighborhood, for we all have much to be thankful for.—Frank H. Thomas.

AROUND THE YARDS.

Too much exercise makes the meat tough and stringy.

Give the chicks plenty of fresh air. It is life for them.

Raw potatoes are said to be good for diarrhoea in chickens.

Get your chicks down on the ground as soon as possible.

Send your birds to at least one show, and attend yourself, as this is a good place to get pointers from the successful breeder.

An authority says if the egg is placed on the side or large end, the heavy yolk will settle to the bottom and come in contact with the shell, which admits the air. If it is placed on the small end, it will always have a layer of white between it and the shell.

White China Geese.

Can you give me the address of any one from whom I could get White China geese? Either eggs or stock.—W. H. M., Sanger.

Also C. S. L. of Lumpoc and F. S. W. of El Centro ask similar questions. We wish, if any of our readers have White China geese for sale, they would send us their names and we will forward same to those inquiring for same in this issue.

Turkey Trouble.

I have a small flock of fine turkeys hatched last April; they are very fat and heavy; about a month ago I had two of them die in one week, yesterday another died of the same symptoms. Their heads and necks were swollen and they drooped around for a couple of days.—Mrs. W. S.

You will have to give us more symptoms of the disease, as it is impossible for us to tell what ails your birds with the meager description you send.

Chicken Pox.

The chickens in this part of the country have some disease which some call roup. Can you tell me through the Cultivator what it is and what to do for it? I wish to be prepared if it breaks out in my flock, as I have several hundred fine White Leghorns. Black lumps form on the comb, in the corner of the mouth or sometimes on the head. In some cases the eyes swell, run and fill with a yellowish white, cheesy matter, which can be taken out in chunks sometimes as large as a pea. Often the same can be found in the roof of the mouth. There is no coughing or sneezing, but when the matter is found in the mouth they run from the mouth a sort of thick water same as discharged from the eyes.—W. H. M., Sanger.

The trouble you speak of is chick-

50 Cent Eggs

You may feed grains alone until doomsday and you will never get many of them. You must supplement grains with some highly nitrogenous food, rich in protein, to keep the hen in good health, build up her system and furnish her with the material for making eggs.

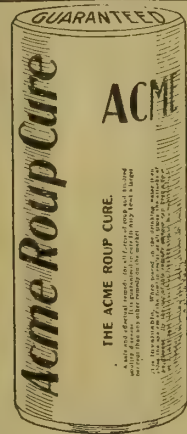
Egg-More

is just this and nothing else. It is not a strong tonic and stimulant, but contains enough condiments to give the food relish and keep the fowls in fine fettle. Just a little fed daily with good grains, or even with bran will do it. It can be fed either dry or as a mash. The hens like it, they eat it, there is no waste. It makes the very cheapest Egg Food, especially if you can buy your grains at home cheaper than to ship them in. The cost is but a very small per cent of the increased egg production. 4-lb. package, 35 cents; 25-lb. pail, \$2.00; 50-lb. sack, \$3.75. If your dealer doesn't keep it, we will deliver a pail or sack freight prepaid by us.

West Coast Stock Food Co.

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LARGEST POULTRY SUPPLIES HOUSE IN THE UNITED STATES



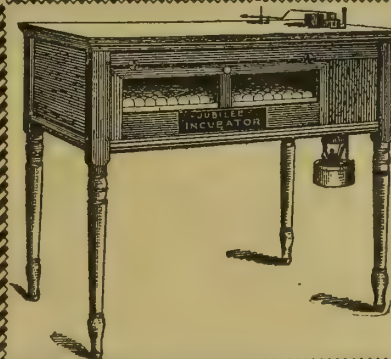
Acme Roup Cure

Cures Roup and Colds

How? It's dead easy. Just place the medicine in the water, the fowls drink, and before you know it the fowls are cured.

50c and \$1.00 per Tube, Postpaid

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HAS A BIG SURPRISE FOR
THE POULTRY FRATERNITY

SUCCESS NOW ASSURED BY USING
The Jubilee

We have something new for you. Send us your name to place on list for Catalogue "J" being issued.

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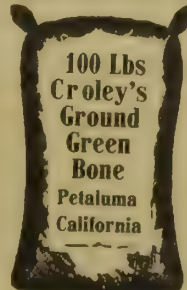
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Are You Using It? If Not, Try a Sample Sack

We believe this Green Bone is as good or better than beef scraps costing much more. But the better way is to try it and convince yourself.

Price, \$2.50 per 100-lb. Sack

George H. Croley
Sole Manufacturer

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SHADE'S RHODE ISLAND REDS

The World's best layers. Our fold-
er for '07 is ready. Drop a postal to

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White Wyandottes (Hubbard Stock)

Egg, \$2.00 per setting, \$10.00 per hundred

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large stock of the very best goods of all kinds at the lowest prices. Come and see us, or mail your orders, and you will be treated right.

Improved Pacific Incubators

are as good as can be made. Also PACIFIC COMBINATION BROODER. And they are priced right, too. We also make the "BUSINESS" Incubators and Brooders. Just for business and they do it everytime. Very low prices for these.

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Poultry Yards)

S. C. White Leghorns---Mitchell Strain

Eggs for Hatching

Our birds are not the culls and accidents of the fancy breeder, but have been bred for generations for a definite utility type to lay both quality and quantity. They are selected by the Hogan system and mated by Standard requirements. Ready for delivery January 1st. Order books now open.

Carl C. Curtis, Owner, Lincoln Avenue and Ventura St. Pasadena, Cal.

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See Our New Salesroom

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HENRY ALBERS CO. EVERYTHING FOR POULTRY

200-250
Egg Fowls

White Wyandottes

Capitol Strain
President's Cup
1907 Seattle

Orders now being booked for Exhibition Stock for Fall Shows. Send early for choice selection. Breeding Stock and Eggs for Hatching. Also Day-Old Chicks. Checks Accepted.

Capitol Avenue Poultry Farm

Rural 21, Box 98K

San Jose, California

Excelsior Egg Food

The food to feed when you want eggs.

None other just as good.

Excelsior Chick Food

Will raise more chicks than any other food on the market. To try it means you will use no other. If your dealer can't supply you, write us.

Excelsior Cereal Milling Co., 242 Central Ave., Los Angeles, Cal.

White Wyandotte Eggs For Hatching

All my hens are tested layers. Prize-winning, large egg laying strain. Come and see my exhibit at the Los Angeles County Poultry Association, December 5 to 14, '07, 415 to 419 S. Hill Street, Los Angeles. **Mammoth Bronze Turkeys**

Mrs. C. D. Hubbard, Box 282, San Fernando, Cal.

Orange Lands One to Ten Acres Chicken Ranches Government Land

We will locate you on 160 or 320 acres of fine lands, will raise anything, or sell 120 acres land, good well, two houses, water at ten feet. Price, \$12.50 per acre, one half cash.

See Sly

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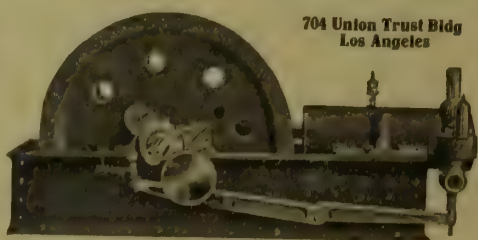
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BY

AIR COMPRESSORS
CENTRIFUGAL AND CYLINDER
PUMPS

WRITE FOR 1908 CATALOGUE

FEDERAL GAS ENGINE CO.



704 Union Trust Bldg
Los Angeles

When writing advertisers, mention Cultivator.

en pox. A good remedy for same is to anoint the afflicted parts frequently with carbolated vaseline, removing the crusts, as they soften and yield to gentle rubbing.

In the issue of September 19, we published a splendid article on chicken pox, which everyone should read and read again, as it contains much valuable information.

SAN JOSE POULTRY SHOW.

The San Jose show is becoming one of the big shows of the State. Practically every class was represented this year and most of them were full. Santa Clara county, of course, made the biggest showing, but there were many fine displays from outside points. Los Angeles sent in a large number.

In speaking of the display, Secretary Brooks said:

"There is the greatest quantity of high class birds ever exhibited in California. Many of the pens and single birds are bringing excellent prices. One single bird was sold yesterday for \$35, and \$100 was offered for pullets and refused. The sum of \$75 was paid for one pen and from present indications on Friday and Saturday, the prices will be the highest ever paid for birds at a California exhibit. This buying of birds is specially confined for the present among the exhibitors themselves, and some fanciers who have taken a special liking to blue ribbon fowls and fabulous prices and offers are expected to be made between now and Saturday.

"Every available space has been utilized during the present show, with exhibits from all parts of the coast, and the Santa Clara Valley poultry and Pet Stock Association has decided, that if it can be possible, a larger and more convenient pavilion will be erected and used next year. The great interest manifested in the present exhibition demands that large and more commodious quarters be procured for next year's show.

"From personal conversation I learned that twice the present space will be necessary next year, as during the coming year many people will enter into the poultry business with a vim which has never been seen before. The various high class prizes offered are special inducements to people to take up the splendid work already done and to try, if possible, to excel in the poultry line."

Following is a list of the awards:

Barred Plymouth Rocks—1, 2 pen; 1 cock; 5 cockerel; 1 hen; 5 hen; 2, 4 and 5 pullet, Moore & Mann; 3 pen; 4 cock; 2 cockerel; to M. Bassett. 4 pen; 5 cock; 4 cockerel. Mrs. G. A. Robertson. 2 cock; 3, 4 hen, J. C. Naylor. 1 cockerel; L. N. Cobblewick.

White Plymouth Rocks—1, 2 pen; 1, 2 cock; 1, 2, 3, 4 and 5 cockerel; 1, 2, 3 hen; 1, 2, 3, 4 and 5 pullet, Mrs. D. A. Robertson. 4 and 5 cockerel, J. B. Clayton.

White Wyandottes—1, 3 and 4 pen; 3 cock; 2 cockerel; 3 hen; 5 pullet, Mrs. W. E. Wilson. 2 pen; 1 hen, J. M. Nelson. 1 cock; 2 cockerel; 1 pullet, J. A. Evans. 4 and 5 cock; 1 cockerel; 5 hen; 3 pullet, Miss Clara Smith. 2 cock; 4 hen, Mrs. M. R. Taylor. 2 cock; 4 hen; M. F. Fisk.

Buff Wyandottes—1, 2, 3, 4 and 5 pen; 1 and 2 cock; 1, 2, 3, 4 and 5 cockerel; 1, 2, 3, 4 and 5 hen; 1, 2, 3,

Concluded on Page 506

LILLY'S BEST COMMON SENSE EGG FOOD

Contains all the elements necessary to build eggs and make feathers grow. Prepared specially to meet the needs of both the laying and moulting hen. A full meal of this splendid tonic once a day during this trying period is a necessity. Read these opinions of practical poultrymen.

"I feed about 1000 hens and about 200 of my best breeders on Common Sense Egg Food. I am satisfied with the results. Healthier hens, stronger hatching eggs, stronger chicks." J. BEADLE, Brooklyn Heights Egg Ranch.

"Your Egg Food is all right." CHAS. MCENTRER, San Luis Obispo, Cal.

"Common Sense Egg Food is the best stuff for chickens." Geo. Striker, Snohomish, Wn.

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Insist on **LILLY'S**

FIRST CALL

The San Diego Show

Dec. 17 to 21, 1907

For Premium List and Entry Blanks, address

H. M. Stiles, Show Secretary
1547 H St., San Diego, Cal.

ORPINGTON RESERVATION.

ROSS & TATE,
ALTADENA, CAL.

BUFF. WHITE. BLACK
ORPINGTONS.

EGGS—PRIZE WINNING OR BREEDING STOCK

One bird or Fifty—One setting or 1000 eggs that hatch, at prices in proportion to quality. Orders booked now for delivery.

We want you to see our place and birds, and will give you a reduction on purchases if you will call in person, but if you can't come send for our catalog. Worth money, but free. 1 blk. north, 2 east of P. O. P. O. box 125. Altadena, Cal.

KILLAMITE

Also kills lice and bugs and ants on fowls and plants and about the house. No injury to plants. Best insect powder made. In sifting cans 25c and 50c, delivery prepaid if your dealer doesn't keep it.

West Coast Stock Food Co.
818 San Fernando St., Los Angeles

For spraying in and about the poultry house, **WEST COAST LICE KILLER** can't be beaten.

Imported Aylesbury Ducks

Winners at Crystal Palace and leading shows in England. Also at the State Fair, San Jose and Oakland, 1906. Also State Fair and San Jose, 1907. Stock for sale and Eggs in season.

Vincent G. Huntley

Petaluma, California

Also Breeder of Buff and Black Orpingtons and Barred Plymouth Rocks.



Bred to Lay and Win
Buff, Black, White

ORPINGTONS

Free Catalogue
P. L. Harley
Bx. C. Redlands, Cal.

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Bees and Their Care

A SWARMING BOX.

A swarming box is handy in the bee yard. It resembles a corn popper with box 12 or 16 inches by 8 or 10 the other way. The long handle should go clear through the box to strengthen it. Make the box of very light wood. The biscuit boxes have the right material to make one. Bore inch holes in the sides to give the swarm air. With this swarming box you need not mutilate your shade trees to get swarms, but can collect on in this from anywhere—from a fence post or from your neighbor's fruit trees when he reports with dismay that a swarm has alighted there. A handle 10 or 13 feet long will do very well if it is fruit trees or ornamental shrubbery that are near enough to furnish alighting places for your swarm. But if you are near tall trees, the longer the handle the better. Bees can be carried from any point in the neighborhood in this box, they clinging to it as if it were home. They are easily dumped from the swarming box on the alighting board before the new home which you have made ready.

A good assistant to go with this box is another long slender pole with a hook on the end of it, so when you put this box under a limb holding a swarm, with the hook catch the limb just beyond the cluster and give it a jerk. Of course, the air will be full of bees and buzzing. But wait awhile, if they do not settle in your box, shake the branch again and keep at it until your bees get tired of such a wiggly bush and settle on the quiet box.

A gentleman passing the house one day said there was a swarm of bees on a fence post a mile and a half away out at the cemetery. One of the boys took the swarming box and got it. He got it home safely more to see if he could do it than from its value, as it was too late in the season for it to build up without help.

I remember once a swarm that would not stay in the hive I prepared for it, but kept coming and going back on the same tree. The third time I got it in my box I car-

ried it into the cellar to cool off and left it there all night. The next day when I took it out and emptied it down in front of the hive the bees went in like good children and went to work.—Farm Stock and Home.

HOW TO HIVE HIS BEES.

H. W. N., Fort Apache, Arizona, writes:

"I have found a wild honey bee tree and would like to know if you can tell me how I may cut the tree down and save the bees and place them in a hive in my garden. A swarm left the hive and a neighbor of mine found them on the branches of another tree close by and has placed them in a large box with a few sticks for them to build combs on and they have gotten busy already. There are lots of wild bees in this country and as the bee trees are found they are cut down, the honey extracted and the bees left to die and shift around through the cold winter. I have a mint of valuable information in these old Cultivators as to their care, so if you will kindly give me the information I desire, I will greatly appreciate it.

A practiced beekeeper to whom the above question was referred, says he saves swarms of bees which go into trees by setting hives a little distance from the tree, in which he puts comb

cases, with molasses at the mouth of the hive, and also in the hive. When the bees discover the hive they will go to work, and as soon as this is done he smokes the tree until the bees leave it, which they will do in a short time and take to the new hives. He then removes the honey, being careful to leave enough near the mouth of the hive to keep the bees from starving until the new hive is established. While the smoking process is under way, a noise at the new hive, made by heating a tin pan, will attract the attention of the bees and direct them to their new quarters. Care must be taken to protect the body from the angry bees meanwhile.

WORKING THE BEES.

Nature has given us the bee to bear the pollen from tree to tree. It is the same with corn and many other plants. Rag weed has an abundance of fertilizing pollen. How can we get the bee attracted to this work? The same as the child is attracted by candy. The tree offers the bee a sweet secretion to induce it to come and take the pollen to other plants. It is a curious provision of nature to improve the productions of fields, orchard and garden.

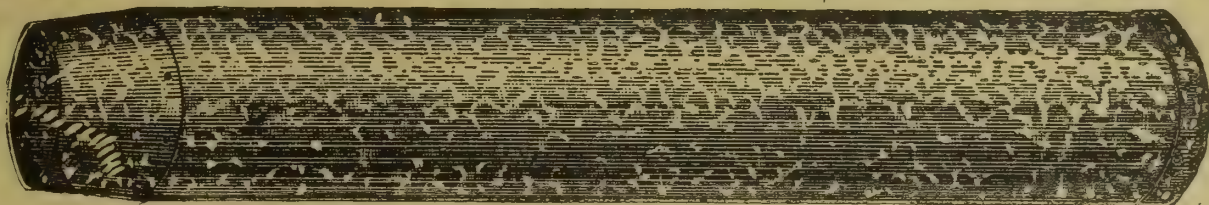
Nothing is done at random, but everything by a system. Fruits put on their most brilliant colors when in blossom for the purpose of attracting the bees. The workers have

large and keen eyes to detect these things. If the hive is large and the queen not crowded there is but little trouble with the bees. The red clover is no good for bees as the honey is too deep for them to reach. Alsike clover is by far the best for honey. In short, you cannot be a successful fruit raiser without bees. Spray after the pollen is fallen. Bees never puncture fruit, but this is done by a bird. This bird will puncture grapes quickly and then it is charged to the bees. Look to these insects and make them your friends.—Ella Stockman, in American Cultivator.

BEEKEEPING.

Apiculture is proverbially regarded as the poetry of agriculture. Of agriculture George Washington said: "It is the most noble industry of man." We would, therefore, flatter ourselves in being fortunately interested in an art worthy of the most strenuous efforts to advance it. As a business proposition, we have evidence from all thrifty beekeepers, on all sides and in all States, that keeping bees pays. Not a little care is necessary, and this attention is imperative at just the right moment; but on the investment the interest is great. Some have considered that beekeeping has had its day; true, the old style. We have done with the box hive and with honey strained through an old blanket, as the Indians used to do. We have found that the crops can be increased, and the profits advanced by modern manipulation.—Burton N. Gates, Expert in Apiculture for the U. S. Department of Agriculture.

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Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

To Grow Eucalyptus.

Please answer in query column if regard to planting eucalyptus seed. If any special care is necessary would be glad to know.—Chas. G. Smith.

If your are planting on a small scale, or have flats enough, use these for seed boxes. Sift the soil so as to remove stones of hard lumps and add a little leaf mould, if you have it, to make seed bed soil. Do not use cow manure even two years old for the young plants cannot stand it. Neither use it when transplanting into flats. Pack the soil into the flats when moist enough to handle well, so that it will not settle out of level when soaked. Wet it down thoroughly and even up with a board when dry enough. Have a board long enough so that it will extend over the sides and notch the ends so that it will extend down about an inch below the top of the boxes. Sprinkle the eucalyptus seed over the surface so that they will be about a quarter of an inch apart. Press them into the soil with a board. Sand the board if the seeds stick to it. Have another board like the one described above for leveling, only have the notches in the end less deep by half an inch. When this is dragged over the top of the box as indicated above, it will not touch the soil by half an inch. Pour pure sand over the seeds and press it down till firm, pass the second board over this and it will remove all of the sand that lies over half an inch deep.

Keep sprinkled moderately, just enough to keep the lower part of the sand from drying out. When the trees come up, do not keep them any wetter than is necessary to bring up the seed. It is better to water them about half as often. There is danger of them damping off if the precaution is not observed. When the trees are about three or four inches high, transplant to flats.—J. W. M.

Worms.

I find upon examination of my young chicks that have died, that the cause was worms.

Some were two inches long, pointed at each end and stiff as wire and had pierced the gall bladder of one examined, another had pierced the gizzard.

They seem to be indigestible and are not confined within the digestive organs, but find their way into the abdominal cavity. Is there a preventative?

What is the cause? Do they eat them for food.

My chickens run free and have access to stable manure and perhaps foul water from drainage since the rain.

They have plenty of proper food and drink.

I am confining them and giving turpentine in food and water.—Perplexed.

The worms are intestinal worms and no doubt the manure pile and foul water is the cause. Turpentine in soft food and in the drinking water will rid them of the trouble. We published the proportions a few weeks since in these columns.

Grit.

Will you inform a subscriber at San Jacinto, what kind of grit, if any, do chickens require while running at

large on coarse sand or gravelly soil. Will they pick up all the grit they require? Would also like to inquire if ground bone is necessary? Also if ground oyster shells is necessary in order to get the best results, or do they require oyster shells while ground bone is being fed.—J. W.

Birds running on range will pick up enough grit to do them. Ground bone is not necessary, but it is one of the best foods. For best results, keep oyster shell before laying hens all the time, no matter what you are feeding, as it is necessary in forming shell of the egg.

Apples for Upland.

I have seen your article about apple trees in California and would like to know what would be the best varieties for me to plant. I am about two miles from the mountains; have heavy loam soil about two miles north of Upland. Also where is the nearest experimental station?—N. R. Galloway.

The best apples for your location are Red and White Astrachan. These are early summer apples and sell better than late varieties with the exception of perhaps Rhode Island Greening. The winter apples ripen at the wrong time to make good quality.

The nearest experimental station is at Riverside, but there are no bearing fruit trees of any kind at that station now. It was started but a few years ago.—J. W. M.

Gum Diseases.

Please give formula for treatment of gum disease on orange trees and how prepared? Is the disease contagious? Can it be started by careless pruning and is there any known cause for it?—W. David, Pomona.

Gum disease is caused by improper conditions of the roots and soil as far as can be learned. Trimming out the dead bark a case it is formed that starts below the surface and treating the wound with crude oil will help it. In the case of scaly bark gum disease, paint with crude oil.—J. W. M.

Peach Blight.

I notice after pruning my peach trees there has been a flow of gum which hangs in chunks on the ends of nearly all limbs and cut places. Will you please tell me if this is a disease and if so, what is the remedy?—J. F. M., Princeton.

It is evidently the peach blight, though not entirely characteristic. Spray after pruning with Bordeaux mixture. As late in the spring as possible, just before the blossoms open, spray with the lime, salt and sulphur remedy.—J. W. M.

Budding Over Apricot Trees.

I have some apricot trees eleven years old; large trees, but they have never borne any fruit to speak of. I would like to work them over to something else.

Do peaches graft or bud successfully on apricot stock?—There is a variety of apricot near that has borne well in years gone by. I will either work the trees over them or else to peaches, and would like your opinion as to which is best.—G. L. Hawley, Madera.

Never attempt to graft onto old apricot trees. The wood is too hard to make a good union. After the fruit is off in the summer, cut the

tops off and bud the suckers in the fall. Thin the suckers out after they have made a good start, leaving those which you wish to bud into. Wax the stumps as soon as the branches the cut off. Bud apricots onto the sprouts. Peaches do not make a good unions on old apricot and buds are liable to blow out. If you want Kelsey plums, there is nothing better for a stock than apricot.—J. W. M.

Grape Cuttings.

I would like to know if it is all right to make grape cuttings off a vineyard that has more or less mildew? If so, I will pick out the vines that has no mildew this fall. And would also like to know where I can get a book that tells all about English walnuts and different varieties.—H.

It is all right to make grape cuttings from mildewed vines, but it is a good idea to dip them in Bordeaux mixture before planting. If the nursery is on low ground, mildew will attack them if you do not sulphur them there also.

There is no book that gives information on English walnuts as they are grown in California. The Cultivator gives up-to-date information on walnut culture.—J. W. M.

Lung Worm.

Our calves are born strong, but when fed on whole and separated milk, half and half, get drowsy. Won't get up to eat. I get them up and they seem weak in the back and stagger; eyes discharge some. No bowel trouble. Several have died. It seems contagious. We put one that had it with others and they all were sick.—G. W. S.

Examine for lung worm. Remove the sick calves to a board floor where the worms will show. Put the well calves into a fresh yard and spread lime, or spray with crude oil on the ground. If lung worm, it is passed from animals by the worm coming from the earth or floor. The worm is a small parasite. I know of nothing else that their symptoms indicate.

Warts.

Will you kindly advise me whether warts on cow's udder can be permanently removed. Warts are long and slender and seem to be forming groups around the teats.—F. C.

Clip the warts off close with pair of sharp scissors. Then cauterise the root and pencil with nitrate of silver.—W. J. Oliver, V. S.

Glanders in Cows.

Do cows ever have glanders; if so, how does it affect them?—A Subscriber.

I have never seen a case of glanders in cows. I believe they are immune to the disease. If your cow discharges from the nose and has a cough you probably have a case of tuberculosis.—W. J. Oliver, V. S.

Ayrshires.

Inquiry is often made at this office as to Ayrshires. Are any kept in this State? Will subscribers who know, write us?

SAN JOSE POULTRY SHOW.

Continued from Page 504

4 and 5 pullet, H. Berrar. 3 cock, Wm. J. Fox.

Silver Pencilled Wyandottes—All Awards to Mrs. Geo. Grindell.

Columbian Wyandottes—1, 2 and 3 pen; 1, 2 and 3 cock; 1, 2, 3, 4 and 5 cockerel; 1, 2, 3, 4 and 5 hen; 1, 2, 3 and 4 pullet, Geo. Leaman. 2 cock; 5 pullet, B. Dent Taylor.

S. C. Rhode Island Reds—1, 2 and 3 pen; 1, 2 and 3 cock; 1, 2, and 3 cockerel; 2 and 3 hen; 1, 2 and 3 pullet, J. D. Kenney. 4 cock; 4 cockerel; 1 hen; 4 hen, W. R. Alexander. 5 hen; 5 pullet, D. G. Bishop.

R. C. Rhode Island Reds—1 cockerel; 2 pullet, Daniel Wright, 1, 3 and 4 pullet, E. L. Patterson.

Light Brahmas—1 and 2 pen; 1 and

2 cock; 2, 3 and 4 cockerel; 1 and 2 hen; 1 and 5 pullet, Mrs. E. F. Reed. 1 cockerel; 2 pullet, W. R. Struthers. 3 and 4 pullet, Adolph Sutro.

Black Langshans—All Awards to G. H. Wheeler.

S. C. Brown Leghorns—1 pen; 3 and 4 cock; 4 and 5 cockerel; 2 and 5 hen; 2, 3 and 4 pullet, Percy Ward & Sons. 1, 2 cock; 1, 2 and 3 cockerel; 3 and 4 hen; 1 and 5 pullet, Williams Bros.

S. C. White Leghorns—1 and 2 pen; 2, 4 and 5 cock; 4 and 5 cockerel; 4 hen; 3, 4 and 5 pullet, C. B. Carrington. 4 pen; 1 cock; 5 hen; 1 and 2 pullet, F. E. Baldwin. 5 pen; 3 cock; 1 cockerel; 3 hen, F. M. Newbert. 2 cockerel; 2 hen, E. K. Klendening.

S. C. Buff Leghorns—1 pen; 1 and 2 cock; 1 cockerel; and 2 pullet, S. Young. 1 hen; 3 pullet, Percy Ward & Sons.

White Minorcas—All awards to A. B. White.

White-Faced Black Spanish—All awards to Robt. A. Rowan.

S. C. Buff Orpingtons—1, 3, 4 pen; 1, 2 and 3 cock; 2, 3, 4 and 5 cockerel; 1, 2, 3, 4 and 5 hen; 2, 3, 4 and 5 pullet, W. S. Sullivan. 2 pen; 1 pullet, Jesse Martin. 4 cock, M. J. Gregg. 1 cockerel, H. Berrar.

S. C. Black Orpingtons—1 pen; 1 cock; 3 and 4 cockerel; 1, 3 and 4 hen; 1, 2, 4 and 5 pullet, H. Berrar. 2 pen; 2 and 3 cock; 5 cockerel; 2 and 5 hen, H. W. Gessner. 1 cockerel; 3 pullet, John Craib.

White-faced Black Spanish—1, 2 and 3 pen; 1, 2, 3 cock; 1, 2, 3, 5 cockerel; 1, 2, 3, 4 hen; 1, 2, 3 pullet, Mrs. D. A. Robertson. 4 cockerel; 4 and 5 pullet, Mrs. Mary H. Taft.

Silver Polish—All awards to Robt. A. Rowan.

Golden Polish—All awards to Robt. A. Rowan.

Black Hamburgs—All awards to Robt. A. Rowan.

S. S. Hamburgs—1 pen, W. H. Hannibal. 2 pen; 2 cock, W. E. Crouser. 1 cock; 1 cockerel; 1 and 2 hen; 1 and 2 pullet, R. A. Rowan.

Golden Pencilled Hamburgs—All awards to W. D. Crouser.

Cornish Fowls—1 cock; 4 cockerel; 1 and 2 pullet, John D. Mercer. 2 cock; 5 pullet, Mrs. W. C. Bogen. 3 cock; 1 and 2 cockerel; 1, 2, 3 and 5 hen; 4 pullet, W. K. Kreig.

White Indians—All awards to Magnolia Poultry Yards.

Golden Sebright Bantams—1, 2 and 3 pen; 1, 2, 3, 4 and 5 cock; 2, 3, 4 and 5 cockerel; 1, 3, 4 and 5 hen; 1, 2, 3, 4 and 5 pullet, E. G. Moore & H. F. Mann. 1 cockerel; 1 and 2 hen, W. C. Bogen.

Silver Sebright Bantams—All awards to Robt. A. Rowan.

Buff Cochins Bantams—1 and 2 cock; 2 cockerel; 1 hen; 2 pullet, R. A. Rowan. 1 cockerel; 1 pullet, L. R. Frost.

Black Tailed Jap Bantams—All awards to W. C. Bogen.

White Polish Bantams—All awards to Robt. A. Rowan.

R. C. Black Bantams—All awards to Herbert J. Riley.

Red Pile Game Bantams—All awards to Robt. A. Rowan.

B. B. Red Game Bantams—All awards to F. D. Sopher.

Bronze Turkey—All awards to Wyman & Son.

White Holland Turkeys—1 old cock; 1 young cock; 1 old hen; 1 young hen, Mrs. W. C. Bogen. 2 old cock; 2 old hen, B. J. Horn.

White Indian Runner Ducks—All awards to C. C. Spencer.

Indian Runner Ducks—All awards to Wyman & Son.

Pekin Ducks—All awards to Mrs. G. E. Hickey.

Alesbury Ducks—All awards to B. G. Huntley.

Toulouse Geese—All awards to G. E. Hickey.

Chinese Ring-Necked Pheasants—All awards to Earnest L. Wilder.

One of the attractions of the San Jose show was the exhibit of Alesbury ducks exhibited by Mr. B. G. Huntley. At this show, as at the State Fair, held in September at Sacramento, Mr. Huntley won all the prizes offered on Alesbury ducks. While at the State Fair, we heard a gentleman say that the exhibit of Alesbury ducks was the best since he left England, the home of the Alesburys.

THE CONTROL OF THE BLIGHT.

Continued from First Page
churned together, strained, and diluted with the remainder of the water.

Relation of Spraying and Pruning.

The early time of spraying recommended for blight control is apt to find the trees unpruned and with considerable foliage still on the branches. This at first seemed a serious obstacle to some, but experience has shown that even in this condition the trees may be sprayed with perfect success, provided a thorough job is done. It is very desirable to have the trees pruned before spraying, and this should be done, if possible, but spraying should on no account be delayed beyond the proper time because the trees are not pruned. If the pruning cannot be done in time the spraying should proceed very thoroughly, and the pruning done later.

Application of the Spray.

The effort should be made, above all, to cover all the branches and fruiting twigs completely with the spray. The inexperienced workman soaks the trunk and main limbs, but leaves untouched much of the small growth which bears the fruit and which the blight particularly affects. In order to check the blight infection on the twigs, those twigs must be completely covered with spray before infection occurs. The least portion of a twig left uncovered is as exposed to infection as though there was no spray on the tree at all. An experienced and conscientious sprayer goes over his trees systematically and completely, leaving no portion uncovered and yet wasting no material.

PRESERVATION OF FENCE POSTS.

The Cultivator is often asked for wood preservation formula. From a Department circular we quote the following:

Experimental tests made by the government with a number of inferior woods have shown that it is practicable to subject them to preservative treatment by which they will be rendered durable and as lasting as the soundest oak in many cases.

This is of the highest importance in connection with the use of fence posts, telegraph and telephone poles, cross ties and constructive timbers of many kinds. It is of special importance to farmers in many parts of the country, for with them the fence post problem is serious.

Almost every farmer in the South and East knows that the supply of locust, white oak, cedar and other durable woods has become so restricted in the last few years that their cost has become almost prohibitive. In the Middle West the supply of good post material always was limited while in many places in the far West it is becoming more and more expensive to build fences because good timber for posts is becoming very scarce. The fence-post problem, therefore, appeals to the farmers of the whole country, and they will be benefited by any process by which a poor post may be made to give double or treble service.

The preservation treatment can be employed more successfully with certain kinds of wood than with others, but it fortunately so happens that the open-grained, quick-growing, quick-decaying timbers are the easiest of

all woods to treat. Among these are old field or loblolly pine of the South, lodgepole and Western yellow pine, cottonwood, willow, buckeye, beech, sycamore and others in the West and Middle West.

Woods which decay most rapidly in their natural state, with few exceptions, are best adapted for preservative treatment. This is important because it renders cheap and abundant timbers available and makes use of what would otherwise be wasted.

The process of treating farm timbers is simple, and the cost is low. The apparatus may be set up and operated by a farmer on his own premises, or two or more farmers or timber users may join and lessen the expense for each. The only apparatus required is an open iron tank, large enough to receive fence posts in an upright position. Shingles, stakes and other small timbers may be treated in the same tank.

The cost of treatment after the apparatus is ready, depends upon the size of the timbers and whether the entire posts or only the butts are treated, and the thoroughness of the treatment. Where freight rates permit the shipping of the preservatives at a moderate expense, the total cost of a treated post of old field pine, lodgepole pine, cottonwood or similar timber, ought not exceed that of a high grade post in its natural state, and is often less.

The government considers the investigations in the preservative treatment of timber of such importance that the business of one branch of a bureau in the Department of Agriculture—the "Office of Wood Preservation" in the Forest Service, is given over entirely to the work of experiments in co-operation with railroad companies, mining corporations and individuals in prolonging the life of railroad ties, mine props, bridge timbers, fence posts and transmission poles. Advice and practical assistance is furnished all who request it of the Forester. The lengthening of life of timber means the saving of thousands of dollars annually through doing away with the heavy expense of labor and cost of material for renewals.

A GOLDEN BUTTER MINE.

When it comes to separators there is one different from all others; one XXth century separator; one separator with suspended instead of supported bowl; one oiled automatically yet perfectly lubricated machine; one separator without bowl contents; one plain, smooth bowl separator; one simplest constructed separator—the Tubular. It costs no more to get the best than to buy an inferior "bucket bowl" machine.

These exclusive and invaluable advantages belong to and are held by patents and processes of manufacture for the people who use the Tubular in their dairies.

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Isn't it time for you, Mr. Dairyman, to be thinking of your butter gold mine, right at your home, ready for the working, capable of yielding big and constant rewards, if only you work it properly?

If you think "yes" write to the Sharples Separator Company, West Chester, Pa., for their "Business Dairying" hand-book and regular catalogue. Both free, if you mention this paper. Both books will help you in getting ready to gain largest possible profits from the butter gold mine.

You can get a Tubular at the regular price, and the dairy help and profit the Tubular stands for. You may get a piano—some 1907 purchaser of a Tubular will get the instrument.

But the upward-tending price of butter, and the certainty of a permanent good price for good quality, are the ample reasons why you should be seeking the world's best centrifugal separator, inquiring about and getting acquainted with the Tubular, and shaping your dairy business to share in the gains that the world is giving yearly in larger measure for excellent butter.



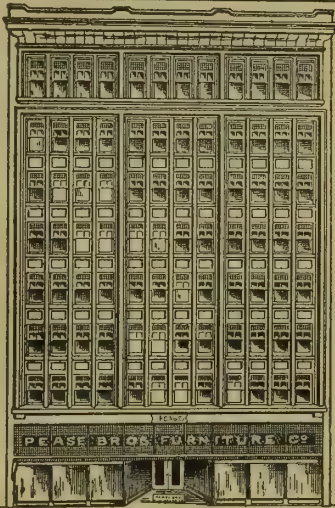
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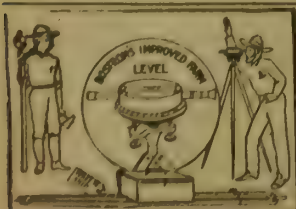
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Household Department

THANKSGIVING.

Were there no God, I still would thank the source, though all unknown,

Wherein are born the joys of men, the gifts I call my own.
The heart impels the tongue to speak since to my lot belong
A woman's love, a sheaf of grain, a lily and a song.

The savage beast, the poison vine, the evil of the earth,—
I know not if the good and bad were only one at birth;
But all the world seems gracious when I set against the wrong
A woman's love, a sheaf of grain, a lily and a song.

—Nixon Waterman.

THANKSGIVING WAR STORY.

AN OLD soldier tells of a Thanksgiving spent during the Civil War in a Maryland camp, when he, a young soldier, with his messmates, planned to dine on roast turkey and pig, and why they ate hard-tack, bean soup and drank black coffee, giving sincere thanks for the hard fare. Mr. Wilson says:

"On the day before Thanksgiving the young men in our company were restless, discontented, homesick, heartily tired of inaction, delay and scanty rations. Maryland was many miles distant from home, the camp ground unpleasantly located.

"In the camp's vicinity Mrs. Hill, a 'war widow,' lived with two daughters in a plain, comfortable Maryland farmhouse. Her husband and two sons were in the Confederate army, the colored people were gone. The women were thrifty, industrious, successful farmers.

"On the day before Thanksgiving our cook intimated that Mrs. Hill's large, fat turkeys and young pigs were in prime condition for roasting.

"A young comrade and myself determined to disregard the strict orders regarding confiscation and secure for the Thanksgiving dinner one of the Hill turkeys. It was an easy matter to evade the guards and creep close up to the poultry house without being detected. Mrs. Hill had ceased to regard the Yankees with suspicion, our boys had behaved so well during our stay.

"Somebody was singing in the farm-house parlor. We listened.

"I must have a peep at that singer," said comrade Barr.

"We crept close up to a window, peeped through a rent in the window curtain into the homelike, cheerful parlor.

"One of our own men, a young soldier, wearing a blue uniform, sat at the piano, playing soft chords, and singing in a sweet, appealing, wooing, charming voice:

Then he sang a stirring warning admonition:

'A charge to keep I have.'
'Ten thousand foes arise.'
'My soul be on thy guard'

"We turned about, hastened to camp, flying from temptation, the ringing voice sounding in our ears:

'The hosts of sin are pressing hard.'

"We were berated by the disappointed men when we returned empty-handed. Two older men volunteered to visit the pigsty and poultry house, promising to return full-handed. They, too, returned empty-handed.

"Steal the widdler's turkeys!" exclaimed comrade Powers. "We hadn't the heart to lay hands on one of the gobblers. Oh yes, we could have bagged 'em easy. We heard a planny in the house an' stopped to listen to

the music. We peeked in at the window. The widdler, the two girls and a young fellow were singin'

"How firm a foundation."

The widdler sat darnin' stockin's jest as my old mother in Vermont is likely doin' tonight. Who do you think was playin' the pianny? Comrade —, a boy wearin' the blue, an' them Southern wimmen air tratin' him like home folks. Boys, that fellow's singin' is preachin'. He can preach. He did preach, "love your enemies." We'll eat hard tack tomorrow an' give thanks. We're to honest to steal pigs from lone wimmen. The singin' chap'll sing tomorrow in chaplain's tent, an', boys, when you hear him sing you'll hear somethin' sweet and touchin'."

"On Thanksgiving Day we ate our scanty dinner sincerely thankful for the absence of stolen turkey. At the Thanksgiving service our young comrade sang for us, sang his way into our hearts.

"Our comrade is yet singing in his peculiarly winning voice to thousands of care-encumbered listeners. His voice is yet sweet and appealing, comforting, admonishing, entreating and inspiring, matured and cultivated, sweetened by his great love to the world."—The Independent.

* * *

*The sweet singer referred to was Ira D. Sankey.

THANKSGIVING DECORATIONS.

Nothing is prettier or more appropriate at the Thanksgiving season than the countless decorations which autumn herself provides. In fact, there are so many possibilities that it is difficult to decide which to use. In a household where there are children, great sport is afforded, not only on Thanksgiving Day, but for many evenings preceding it, in cutting pumpkins into fanciful shapes, for decorating the room. This is an old idea, but when carried out with other vegetables, some amusing as well as unexpectedly pretty results can be obtained. While bouquets of very natural looking flowers can be carved from such commonplace things as carrots, turnips, beets and potatoes. In fact, there is almost no limit to the possibilities when bright boys and girls set their wits to work.

For those who prefer daintier effects the woods yield rich stores of leaves, vines and bits of brightness. Chrysanthemums seem especially appropriate at this season, and make a beautiful centerpiece, while nothing is prettier than a platter of fruit, surrounded with autumn leaves.

One of the most typical harvest decorations is made by using a basket of bearded grains and grasses for a centerpiece, with smaller clusters at each place. A novel bouquet holder, and one that is very effective, is made by hollowing out a good sized cabbage, to hold a vase of flowers. The curled green leaves of the vegetable are very pleasing in their effect.—Am. Poultry Journal.

Have you noticed our Christmas suggestion and offer on the editorial page? Don't you think it is a good one? If you feel like the reader who writes the following, you will find the blank and fill it out. J. P. J. "I would not think of keeping house without the CULTIVATOR. It is in very truth "the home-makers guide."

One ranch at Perris is to put out five hundred acres of alfalfa.

A TYPICAL THANKSGIVING DINNER.

Thanksgiving is not so much a time of dainty menus as it is a reversion to the good old days of our grandfathers, when the fruits of the farm were the feature of the day. One can get unusual and fanciful side dishes at any time of the year, at the expense of a little time and patience, but when Thanksgiving Day comes, nothing tastes quite as good as a big turkey, flanked by the simply prepared and common vegetables, and followed by generous slices of mince and pumpkin pie. In many families the turkey must be supplemented by chicken pie, or else the traditions of the day are not complete.

Old-fashioned chicken pie: Line the bottom and sides of a deep baking dish with cold boiled chicken, cut into convenient pieces, and the bones and skin removed. Cover with gravy, and instead of placing the usual crust over all, cut pieces with a biscuit cutter, and cover the top with these. They are much easier to serve than the usual top crust.

Creamed onions: Remove the outer skin of the onions and let them stand in salted water for half an hour. Boil in salted water until tender, drain, and pour over them a cream gravy, made by stirring together two tablespoonfuls of butter and one heaping tablespoonful of flour, and adding warm milk, stirring constantly. Let this boil up, and pour over the onions, adding seasoning to taste.

Squash in the shell: A pretty way to serve squash is to steam and mash it as usual, but instead of serving in a vegetable dish, fill the hollowed out shell of a squash with it. Let the mashed squash be heaped well above the top of the shell, in cone shape, and mold it, with the handle of a fork, as butter is often molded, in "pineapple" shape, putting bits of butter on it just before bringing to the table.

Cabbage omelet: This makes a pleasing change from boiled cabbage. Cook the cabbage the day before using. Chop fine, add a liberal amount of seasoning, a cupful of milk and two well beaten eggs. Put in a buttered baking dish, and bake till the custard sets.—American Poultry Journal.

ROAST TURKEY.

If you haven't raised a turkey for your Thanksgiving dinner resolve to do so before another year. When one prices a plump turkey and finds it necessary to dig up about five dollars of this new, hard times scrip, which we are compelled to take these days, for a fairly good sized turkey, it causes the economical housekeeper to sigh for a yard where one can go and pick up a plump bird without considering mortgaging the farm to do it.

But assume that you have the bird and have its head off. Then, after picking and singeing the turkey, plump it by plunging three times into boiling water, then three times into cold. Drain, then draw.

Prepare stuffing by grating or grinding bread crumbs fine. Season well with salt, pepper, sage and butter. Put in pan and add enough hot water to moisten well. Cover and let steam, but do not cook over fire. Be careful not to have the dressing too wet. Thoroughly mix.

Rub inside of turkey with pepper and salt, fill with the stuffing. Sew up each slit with a strong thread or

cord. Tie the legs down firmly and press the wings closely to the sides, securing them with a cord tied around the body.

Steam from one to three hours by placing the turkey in dripping pan, on pieces of wood (hardwood, which will not give off flavors) laid in bottom of wash boiler, with just enough water to cover the wood.

Put on the lid, which should fit tightly, add water as necessary. Steam one to three hours, as to size. Add the liquor in the dripping pan to the turkey and place in oven. Lard the turkey, or place on the breast three pieces of fat taken from it before it was stuffed. Sprinkle with salt and pepper, dredge well with flour; if not sufficient water in pan, keep adding and baste often, as the excellence of the meat depends on this. Cook until a nice brown and perfectly tender.

Remove to hot platter and serve with cranberry sauce and giblet gravy.

More Economical.

If the price of turkey is too great for you to get the customary Thanksgiving turkey, turn your attention to something more economical, yet very good. Plain boiled chicken with its accompaniment of gravy, baked "dumplings" (which may be baking powder or soda biscuits covered with gravy), mashed potatoes and some vegetable, turnips or squash. Or if the chicken be not desired, have roast pork, which, with dressing, seems almost as satisfying as the turkey.

This, with cranberry sauce or jelly, nut or tomato salad, and the regulation pumpkin or mince pie, will afford you a fine and satisfying Thanksgiving dinner without an extravagant outlay of money. After all, it is not what you eat, but the spirit of the eating, that makes the day complete or otherwise.

A simple meal, eaten with happiness and contentment, is more to be desired than the more elaborate meal without that contentment and thankfulness.

HOMELY HINTS.

For earache warm a teaspoonful of olive oil over the steaming spout of the tea kettle and drop it gradually into the ear, plugging with antiseptic cotton. For earaches which cannot be relieved by this treatment a physician should be consulted.

A bottle full of hot water at the back of the neck will often cure nervous headache.

For neuralgia on the left side of the face put the right hand in water as hot as can be borne. If the pain is on the right side, hold the left hand in the water. Neuralgia is purely a nerve ailment as its name implies, and this simple treatment warms the chilled nerves which are suffering.

A DISAGREEABLE HABIT.

To prevent children from biting their nails buy a tube of liquid court plaster. After cleansing the hands thoroughly apply a drop to each finger nail, spreading it evenly over the top of each nail.

Allow this to dry three or four minutes before using the hands. It will form a hard, smooth scale which sticks very tight. In order to remove it the child must willfully bite it off, and most children only bite their nails through nervousness. Renew the application every other day, soaking the previous plaster away, and stimulate the pride of the child by a talk on the improved appearance of the nails.

Books and Papers

CYCLOPEDIA OF AMERICAN AGRICULTURE.

Those who have seen the four-volume edition of the Cyclopedia of American Horticulture will need but little to convince them of the worth of another new publication also edited by Prof. L. H. Bailey of Cornell University. This is the Cyclopedia of American Agriculture. It is also a four-volume book of which two volumes are now ready for delivery. It is along somewhat different lines than the Cyclopedia of Horticulture in this, that it does not have the alphabetical arrangement of topics as does that book.

The first volume has to do with the soil, its use and abuse, and in it, of course, comes extended reference to irrigation, both historically and as to practical application. Volume 2 has to do with the products of agriculture, farm crops, etc. In this, of course, are planting tables, farm forestry, profit in the woodlot, marketing of forest and all other crops, etc.

Volume 3 is devoted entirely to farm stock, and is subdivided into "General Principles," "Animal Industry or Technology," "Descriptive Articles." Stock breeds are described by expert judges.

Volume 4 has to do with social economy in the country. The features of this volume will be: The History and Development of Agriculture in North America; Short Biographies, with portraits of persons who have been identified with, or instrumental in the progress of American agriculture; A Bibliography of agricultural writings relating to North America; A Symposium of discussions on Economic Questions, such as Taxation, Farm Labor, Co-operation, and the like; An interesting treatment of Rural Society, neighborhood improvement plans, country schools and similar social and economic topics.

TYPES AND BREEDS OF FARM ANIMALS.

A book which should be in the library of every stock owner in this State is, "Types and Breeds of Farm Animals" by Chas. S. Plumb, of Ohio State University.

Excepting the burro which we have looked for reference in vain, there is no breed of animals which we have yet looked to it for information, but what we have found a condensed and complete account so far as could be included in a book of its size. It is a book of less than 600 pages; gives the history of the various breeds of horses, from the prehistoric horse down to the present. All the beef and dairy types of cattle are also treated, as well as wool and mutton sheep. Goats are fully treated, the article relating to milch goats being of exceptional interest. There is a description of swine covering almost a hundred pages in its description of the thirteen different breeds.

Every breed is illustrated and often different types of the same breed with a condensed history of each. It is published by Ginn & Company, Boston, Mass.

"Help! Help!" cried an Italian laborer near the mud-flats of the Harlem river.

"What's the matter?" came a voice from the construction shanty.

"Queek! Bringa da shov! Bringa da peck! Giovanni's stuck in da mud."

"How far in?"

"Up to hees knees."

"Oh, let him walk out."

"No, no! He no canna walk! He wronga end up!"—Everybody's Magazine.

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FARM LANDS FOR SALE.

DO YOU WANT A POTATO FARM IN OREGON where potatoes grow to greatest perfection, and where you can make \$600 an acre clear in balmy climate? Ten-acre Oregon potato farm will make you independent for life; \$500 will start you. Write CHAMBER OF COMMERCE, room 1084, Astoria, Oregon.

FOR SALE—20 ACRES ALFALFA RANCH, near rapidly growing city of Corona. Rich soil. Pumping plant; inexhaustible well. Terms reasonable. Address, W. S. RITCHIE, Corona, Cal.

FOR SALE—ONE-HALF ACRE ON TWO car lines. 25 minutes from Los Angeles. Fine sandy soil suitable for poultry. Price \$600; terms, \$100 cash, balance \$25 per month. Plenty of water. Address BOX H, CULTIVATOR.

TREES.

ATTENTION PLANTERS—KADOTA FIG the best of them all; one, two and three-year-old trees at wholesale prices; write for catalogue. Nurserymen get in line and grow the very finest fig, it's a money-maker. H. L. BAUER & SONS, 737 S. Spring St., Los Angeles, Cal.

20,000 SEEDLING AND GRAFTED WAL- nut trees for spring planting from selected seeds and grafts. A fine stock of apricots, peaches and plums. A. R. MARSHALL, nurseryman, Olive, Cal.

FOR SALE—NATIVE BAY TREES, LIVE oaks, Scotch Heather, German Buxus and other native plants and novelties at H. L. BAUER & SONS, 737 S. Spring St., Los Angeles, Cal.

EUCALYPTUS TREES—ORDER NOW AND have your choice of any variety at any time, of any size. A. L. HURTT, San Bernardino, Cal.

FOR SALE—BLUE GUMS AND ORANGE seed bed stock; a postal gets prices and terms. Address L. Z. HUNTINGTON, Anaheim, Cal. Home 'phone, 1663.

FARM LAND TO LET.

TO LET—ON 1-5 CROP. Finest wheat land in California, 17 miles south of Porterville, Tulare county, average crop 10 sacks.

To every one renting ½ section of the above lands we will give special price and easy terms on a choice 20 or 40-acre tract with water rights. If you will make this a home place, plant some in oranges and grapes. Early potatoes and all vegetables, show the largest yield in the State, and with your wheat crop, will give you a big income each year, while your trees and vines grow into full bearing orchards and vineyards and secure for you an income for life.

Call or write, JOHN RUPP, San Joaquin Farms Co., 525 S. Spring St., Los Angeles.

EGGS FOR HATCHING.

EGGS FROM MY PRIZE WINNING Barred Rocks; won all special and 13 regular prizes on Barred Rocks at late Los Angeles show. Eggs from best pens, \$2 and \$3 per 15; \$10 per 100. Can furnish any quantity. Also offer extra bargains in breeding stock. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

EGGS FOR HATCHING; PRIZE PEN CO- lumbian Wyandottes, \$3 per setting. F. M. BENDER, Corona, Cal.

BERRY PLANTS.

FOR SALE—KLONDIKE, EXCELSIOR, Arizona and other varieties of strawberry plants, \$2.00 per thousand, f.o.b., Gardena. Would like to deliver plants by first of January. Address, D. P. DUNCAN, Gardena, Cal.

FOR SALE—20,000 KLONDIKE BERRY plants, \$2.00 per M. Also about 20,000 Brandywine plants at \$1.50 per M. A. N. McHENRY, Highland, Cal.

FOR SALE—CHOICE CALIFORNIA BERRY plants. Send for catalogue to R. J. HUNTER, Oak View Berry Farm, Gridley, California.

WANTED—ONE-YEAR OLD LOGANBERRY plants. Address, P. O. BOX 2897, Fresno, California.

FLOWERS.

FOR SALE—A FINE STOCK POINSETTIAS at 25, 50 and 75 cents; large blooming plants, just received; a fine lot Arancaria Excelsias, 75 cents, \$1.00, \$2.00 and \$3.50; very nice plants. H. L. BAUER & SONS, 737 S. Spring St., Los Angeles, Cal.

DUCKS.

INDIAN RUNNER DUCKS—A FEW FINE breeders for sale now laying; extra drakes. Eggs, \$1.00 per 13. Black Langshans, young stock for sale. CLYDE J. MOSS, Corona, Riverside Co., Cal.

LIVE STOCK WANTED.

WANTED—THOROUGHLY REGISTERED Jersey, must be young and first-class. For family use. J. E. McLAUGHLIN, 405 Bullard Bldg., Los Angeles, Cal. Home phone, A 142.

BOOKS.

FREE "THE POULTRY MANUAL," by these high authorities, F. L. Sewell and Ida E. Tilson, profusely illustrated. Send us the names of twelve persons keeping any poultry and we will send it to you absolutely free and postage prepaid. WEST COAST STOCK FOOD CO., 818 San Fernando St., Los Angeles, Cal.

CABBAGE PLANTS.

FOR SALE FIVE TO TEN THOUSAND early Winningsdale cabbage plants, \$1.00 per thousand. A. E. NELSON, El Monte, Cal.

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FOR SALE 220-EGG PETALUMA INCUBA- TOR, \$12.50; Gem Clover Cutter, \$5; Humphrey Bone Cutter and extra parts, \$10; two-wheel Iron Agricultural Garden hose and seeder, \$10. All new apparatus; or make offer for the lot. BOX 120, Lordsburg, Cal.

FOR SALE—GASOLINE ENGINE 35-H. P. with 100-gallon distillate tank and 2500 gallon water tank. NATIONAL WOOD PIPE CO., Los Angeles, Cal.

FOR SALE—IN A-1 CONDITION; 50-H. P. Fairbanks-Morse gasoline engine at a bargain. WAITE, BAILLE & CO., Los Angeles.

FOR SALE—STOVER GAS ENGINES, SIM- plicity pumping plants. LIVINGSTON & LEE, 352 S. Los Angeles St., Los Angeles, Cal.

FOR SALE—10-H. P. WESTCOAST DISTIL- late engine in good order; cheap. 943 N. MAIN ST., Los Angeles.

FOR SALE—A SNAP—22-H. P. FOOS GASO- line engine in perfect running order. 1171 BRUNO ST., Los Angeles.

HELP WANTED.

WANTED—A NURSERYMAN WHO HAS had experience in fruit tree nurseries and understands budding and grafting. A good opening for a young, energetic man who is anxious to advance on his merits. Also a young man who is familiar with ornamental plants and greenhouse works. Address, BOX 2897, Fresno, Cal.

WANTED—ACTIVE AND RELIABLE agent to sell Tuttle's Elixir Co.'s family and Veterinary remedies outside Los Angeles. Nothing better. TUTTLE'S ELIXIR CO., 1921 New England Ave., Los Angeles.

SITUATION WANTED.

WANTED—SITUATION BY RELIABLE IN- dustrious, young man with California experience in vineyard, orchard and general farm work. Address, "Vineyardist," care of "Cultivator," Los Angeles.

WANTED—POSITION AS MANAGER OF a good poultry ranch; 15 years experience; understand incubators and care of chicks. JOHN THUM, 554 Central Ave., Los Angeles.

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TUESDAY NOVEMBER 26

At 10 a. m.

This stock consists of all Young laying Hens, mostly Thoroughbred White Leghorns, fancy strains, also a few Buff and Brown Leghorns and one pen of White Rocks. A great many of these are pullets, just commencing to lay. All a choice lot of hens.

Also complete equipment of my chicken ranch, consisting of coops, 12 double brooders, 7 single brooders, feed cutter, house killing machine, 5-gallon sprayer, 4 incubators, pens, egg cases, lumber, etc., etc.

1 single buggy, double driving harness, single harness, 1 engine house, 1 auto house, in fact everything on the ranch. 1 Fine Jersey Cow, coming fresh; 1 Fine Jersey Calf; 1 work Mule; 12 Turkeys.

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INVALUABLE.

I find your paper invaluable to the fruit grower, and have been greatly aided by its suggestions. I wish to say here that I have tried your winter budding and find it a great success and far better than any other method of budding I have ever tried, and especially so with old trees, although I have made a success on both old and young trees. This in itself has been worth more than a year's subscription to the paper. J. D. M'CONCHIE, Reedley.

BEST ALL AROUND.

I consider the Cultivator the best and cheapest all round agricultural paper I have had to with either in this country or Old England, and wish you much success in its publication.—John Ap. G. Williams, San Jose.

For practical cow milking machine see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles.

The Produce Markets

Los Angeles Markets

LOS ANGELES, Nov. 20, 1907.

Butter.

Butter is stationary, showing no change from last week.

Creamery extra per roll... 67½
Firsts... 65
Seconds... 60
Dairy... 45
Cooking... 45@47
Eastern... 60
"Butterine"... 15@22½

Cheese.

Cal Young America per lb... 19
Hand... 20
California Anchor... 21
Northern fresh... 18
Eastern singles... 19
Imported Swiss... 32
Tulare flats... 18½
Domestic Swiss... 22@23
Oregon... 18

Eggs and Poultry.

Eggs are still climbing and 47 cents is now secured for exceptionally fine stock. The receipts are light and the heavier demand anticipated for the Thanksgiving trade has stiffened the price. Eastern storage has taken a fall and are quoted two cents lower.

Eggs local candled... 45@47
Eggs case count... 41@42
Fresh Eastern... 36@40
Eastern storage... 23@26

Turkeys are the interesting feature in the poultry market and are quoted higher. It now appears there will be a material shortage. Many are holding till Christmas trade. Dealers are readily paying 20 cents now and without doubt will pay higher by Monday, unless the financial scare causes a much lighter demand than anticipated.

Hens per lb... 14@15
Young roosters per lb... 16
Fryers... 16@17
Broilers per lb... 17
Old Roosters... 8
Turkeys... 20@21
Geese... 11½@12
Ducks... 12
Squabs... 1.75@2.00

Live Stock.

Hogs are still lower and are now quoted at 6½ or a decline of a full cent in the past two weeks.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 lbs... 6½
Prime steers... 4½
Heifers... 4
Calves per lb... 4½@5
Sheep ewes per head... 4.75
Lambs per head... 3.75@4.25
Wethers... 5.50

Potatoes.

There is no material change in spuds. The receipts are fairly heavy so that buyers are rather independent in buying.

Highlands... 1.25
Early Rose... 1.75@2.00
Salinas... 1.75
Colorado... 1.75
Sweet Potatoes per sack... 1.55@1.75
Oregons... 1.50@1.65
Idahos... 1.25

Onions.

Receipts of onions are still fairly heavy with price slightly shaded, though a good tone to the market.

Yellow Danvers... 2.25
Australian Browns... 2.25@2.40
Oregons... 2.65
Garlic... 8

Vegetables.

Beets per doz... 35@40
Bell peppers green lb... 2
Beans Limas per lb... 1½
Beans green... 1
Cabbage sack... 25@30
Celery per doz... 75
Chili peppers green lb... 92
Cucumbers per box... 15@25
Pickling... 50
Corn per box... 25@35
Cauliflower... 40@50
Carrots per doz... 30@40
Eggplant per lb... 2
Green onions doz bunches... 10@30
Lettuce per crate... 40@75
Pie Pumpkins... 1½
Peas sugar per lb... 3
Okra per lb... 5@6
Rhubarb per box... 1.00@1.25
Radishes per doz... 15@20
Spinach per doz... 10@15
Summer squash crate... 15@35
Turnips doz bunches... 40
Tomatoes per box... 40@60

Citrus Fruits.

Valencias... 3.00@5.00
Grapefruit seedless... 2.50@3.00
Grapefruit seedlings... 1.75@2.00
Lemons fancy... 2.25
Lemons choice... 1.50@1.75

Fresh Fruits.

Bellefleurs... 1.90@2.00
Baldwins... 1.25@1.50
Pippins 4-tier... 1.50
Gravenstein... 1.50
Alexandria... 1.00@1.50
Cooking... 50@1.00
W W Pearmains... 1.75
Colorado Jonathans... 3.50
Cantaloupes crates... 1.50@2.00
Casaba per crate... 1.50@1.75
Figs black per lb... 8@10
Figs white... 11@12
Guavas... 40@45
Grapes Isabelas per box... 1.25
Rose Peru... 1.15
Malaga per lb... 1.25
Muscats... 1.25@1.75
Tokay... 1.50@2.00
Cornichons... 1.25@1.75
Pears... 1.25
Winter Nellis per lb... 1.50@2.00
Peaches per box... 1.50@2.00
Pomegranates per lb... 1.50
Perimmons... 50@60
Quinces... 1.25
Raspberries... 15@20
Strawberries... 60
Watermelons per hundred... 60

Dried Fruits.

Apricots... 18@20
Evap apples fy per lb... 1.75
Figs loose... 12@15
Peaches... 12@15
Pears... 12½@15
Nectarines... 13@15
Prunes... 3½@5
Plums... 11½@15

Beans, Dried

Limas per ctl... 5.50@5.75
Pink No 1... 3.75@3.85
Lady Washington... 3.75@4.00
Small White... 3.90@4.00
Black eyes... 4.50@4.75
Garvanzas... 5.25@5.75
Lentils... 12@12½

Honey

Extracted white... 6@7
Light Amber... 5
Comb water white 1-lb. fms... 12@15
Light Amber... 11@15

Nuts.

Almonds per lb... 13@20
Peanuts Virginia... 8½@9
Peanuts California... 6@7
Walnuts No. 1 S S... 15@20

Hay.

Barley No 1... 14.00@18.00
Barley No 2... 13.00@14.00
Alfalfa northern per ton... 15.00@17.00
Alfalfa new local... 15.00@17.00
Plain Oat No 1 new... 16.00@18.00
Wheat No 1... 18.00
Wheat No 2... 14.00

Grain.

Wholesale selling price f. o. b., Los Angeles.
Wheat new per ctl... 1.80
Wheat in 100-lb. sacks... 1.80
Barley... 1.80
Corn Eastern sacked... 1.80
White oats... 1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:
Cracked corn... 1.80
Shorts... 1.80
Bran... 1.80
Oil cake meal... 2.20
Feed meal... 1.80
Rolled barley... 1.80

HOLTVILLE, IMPERIAL VALLEY CALIFORNIA.

We beat the world six weeks of grapes, cantaloupes, asparagus and fruits. Pasture for stock all year around.

This means high-priced land. Buy now while cheap. WHITE BRINDENSTINE, Holtville, Imperial county, California.

All Eastern-Oregon has had a banner crop year, producing 6,000,000 bushels or one per cent. of the total wheat crop of the United States. A total crop failure was never known in this section, and many who began work there a few years ago with an empty cart are now riding in automobile. Part of the wheat acreage is leased from the Indians of the Umatilla reservation, who derive an income of about \$200,000 a year from the source.

The State Experiment Station at Washington, has made the report of the results secured from seedling twenty-one hybrid wheats distributed among the farmers last year. The one which has proved the most satisfactory is termed "No. 108." It is a cross between "Jones Fife" and "Little Club." It is said to have an average of fifty bushels per acre.

San Francisco Markets

SAN FRANCISCO, Nov. 19, 1907.

Butter.
Fresh extra butter declined to 30 then rallied again to 31, or still one cent below last week's quotations. Indications are that it will still further recover.

California extras per lb.31
California firsts.26
California seconds25
Eastern extras.26
Storage Cal ex.27½

Cheese.
California young American fy15
California flats fy.15
Eastern fy.18½
Oregon fancy.15½

Eggs and Poultry.
Eggs are exactly as quoted last week.
Fresh Ranch eggs.56
Eggs firsts per doz.45
Eggs seconds per doz.27
Eggs thirds.23
Storage Cal extra.29
Eastern selected.24
Eastern firsts.22

The poultry trade does not yet seem to show the stimulus of the coming of Thanksgiving. Later in the week it will doubtless do so.

Hens per doz.4.50@6.00
Hens extra.6.00@7.00
Young roosters5.50@6.50
Old roosters.4.00@4.50
Fryers per doz.4.50@5.00
Broilers per doz.4.00@4.50
Geese per pair.1.50@2.00
Ducks young.4.00@4.50
Turkeys per lb.18@25
Pigeons.1.00@1.25

Live Stock.
Hogs have taken a sharp decline during the past week.
Steers No. 1.8@8½
Do second quality.7@7½
No. 1 cows and heifers.6½@7
Hogs 80 to 200 lbs.6½@7
Hogs 200 to 300 lbs.6@6½
Calves per lb.4½@5
Lambs spring6@6½
Wethers No 1.5@5½
Ewes No 1.4½@5

Potatoes
River whites.1.00@1.35
Oregon Burbanks.1.20@1.40
Salinas.1.50@1.60
Sweets.1.40@1.65

Vegetables.
Cucumbers per box.50@75
Corn per sack.1.50@1.75
Chili peppers per box.50@60
Bell peppers per box.50@75
Egg plant per box.50@75
Green peas per lb.3@5
Squash per box.50@75
Marrowfat squash per sack.60@75
Hubbard squash per sack.60@80
Tomatoes California.50@75
String beans.1@3
Wax beans.3@3½
Garlic.4@6

Onions.
Onions Br Australian per ctl2.35
Yellow.2.15@2.40

Citrus Fruits.
New navel.2.25@3.00
Grapefruit seedless.2.50@3.50
Lemons.1.50@4.50
Limes.2.50@4.50

Fresh Fruits.
Apples Gravenstein.1.25@1.50
Apples small stock.40@75
Figs one layer.50@1.00
Grapes per crate.40@1.50
Huckleberries.10@13
Melons per small crate.50@60
Pears winter Nellis.1.50@2.00
Pears cooking.60@1.25
Persimmons.75@1.25
Pomegranates per box.1.00@2.50
Quinces per box.1.00@1.50
Raspberries per chest.10.00@12.00
Strawberries per chest.5.00@7.00
Watermelons per doz.1.75..2.50

Dried Fruits.
Apples (evap.)10@10½
Apricots per lb new.18@21
Figs white.3½@5
Nectarines.12½@15
Plums pitted.12@15
Prunes 4 sizes.4@5½
Peaches.10@13
Pears.7@13
Prunes 4 size bag basis.4½@5

Beans, Dried.
Limas.5.15@5.30
Pink.3.25@3.35
Small white.3.50@3.60
Large white.3.00@3.10
Lady Washington.3.40@3.50
Black eyes.4.00@4.25
Red kidneys.3.40@3.50
Bayo.3.15@3.25

Hops.
Hops new future delivery per lb 7½@10
Hops old fancy.4@6

Nuts.
Almonds new.16½@17½
Peanuts California.6½@7½
Walnuts.14@17

Honey
Clear white comb.16@17
Amber.12@15
Extracted.7½
Beeswax No 1 per lb.26@28

Hay.
Alfalfa local.12.00@14.00
Tame oat choice.18.00@19.50
Wild oat.10.00@14.00
Wheat No 1 new.21.00@23.00

Grain.
Wheat No 1.1.70@1.72½
Barley No 1.1.60@1.62½
Corn small yellow.1.65@1.70
Corn large yellow.1.65@1.70
Oats white.1.60@1.65
Oats red.1.75@1.90

Feed Stuff.
Bran per ton.26.50@27.50
Straw per bale.75@85
Feed cornmeal per ton.36.00@37.50
Cracked corn per ton.37.00@38.00
Rolled barley per ton.35.00@36.00
Oil cake meal per ton.38.50@40.00
Cocoanut cake, per ton.25.00@26.00
Middlings.30.00@32.50

Citrus Market

LOS ANGELES, Nov. 20, 1907.

The orange market seems to be feeling of the financial condition rather carefully. Prices, so far as quoted, are not startling either way. When any f.o.b. prices are made they are in the neighborhood of \$2.00 or \$2.50. The Eastern auctions are still working off the Valencias, some of which may be storage.

The shortage of cars formerly prevailing in the Central California sections has been overcome and there are sufficient cars now.

Lemons are not especially strong, but the few in hand are taken care of at fair prices.

A dispatch in a local paper from Chicago says:

CHICAGO, Nov. 19.—Lemons rule quiet. The demand is tame. Supply ample and feeling easy. California, boxes 300s extra choice, \$4.75@5.00; 360s, \$4.50@4.75; 240s, \$4.50@4.75; 420s, \$4.00; choice, \$4.00@4.50; 360s, \$3.50@3.75; 240s, \$3.50; 420s, \$2.50; limes, barrels, \$9.00.

Oranges—Trade is rather slow. There are fair receipts of both California and Florida oranges. Nice 126 and 150 size sell fairly, but all others are dull. Trade in oranges, the same as in all other lines, is slow. Boxes Florida, 126 to 150 sizes, \$3.25; 176 size, \$3.00; 200 size to 216 size, \$2.75; 250 to 288 sizes, \$2.50; Mexican, \$4.50@4.75; California navels, \$3.50@3.75; tangerines straps, two boxes Satsumas, \$5.50; barrels, Jamaica, \$5.00. Grapefruit, Florida, bright boxes of 360 \$4.25.

Shipments.
Shipments of citrus fruits to date, 371 cars, of which 208 were lemons. To same date last season, 157 cars, of which 105 were lemons.

THE "SUCCESS" (NO LAMP) INCUBATOR.

The inventor of the "Success" (no lamp) Incubator, Brooder and Automatic Nests, is the author of some very excellent ideas in modern poultry culture which are free to any one for the asking.

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The Automatic Nests for designating the laying hens are the greatest stride in the science of poultry farming. Write for free folders.

Our poultry buildings and poultry plant plans are acknowledged to be more economical, servicable and easier constructed than any yet devised for the Pacific Coast.

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White Salmon, Wash.

ECONOMY IN BURNING OIL.

The Greenleaf-Compton Company of Los Angeles have put a new Oil Burner on the market which bids fair to revolutionize the burning of oil under steam boilers.

This Burner—The Williams' Recuperative Oil Gas Generator, as shown in cut herewith—makes a gas flame—

FIRST—We bring the fuel to the flame, a highly heated gas, not the spraying of crude oil on brick work, but the placing of the fuel in the highest state of combustion before discharging into the furnace.

SECOND—We operate this device independent of stack for draught, taking all the elements for combustion through the device itself.

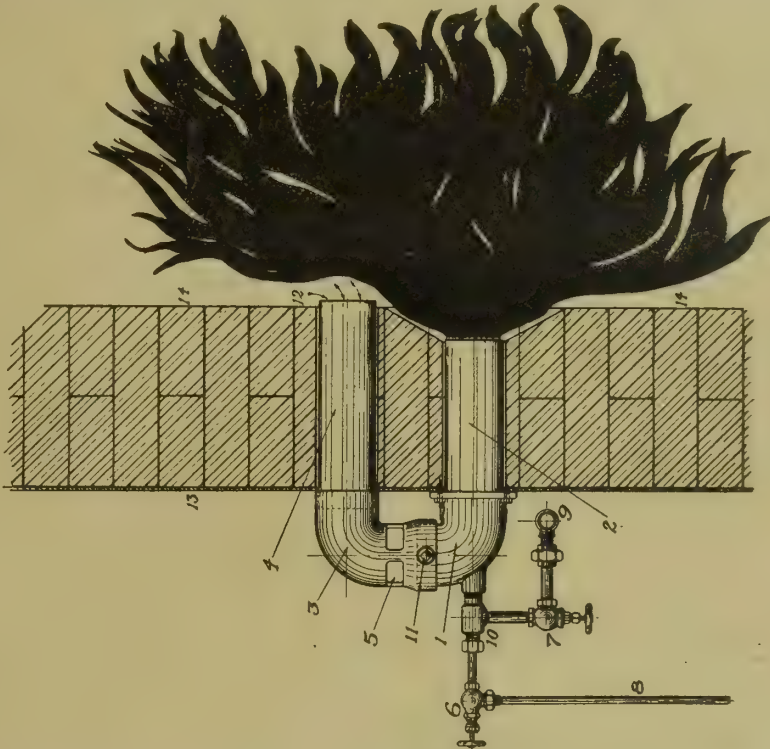
From the simple fact that the Williams' Burners can be operated with an almost air-tight stack, both fire box and ash pit doors closed

by the International Harvester Company.

These engines are manufactured on correct mechanical lines. Like every other implement, tool or machine manufactured by the International Harvester Company, they are required to be of the highest order. That implies not only correct principles, but materials best adapted to uses, and workmanship that cannot be surpassed.

The principles were carefully worked out and tested before manufacture began. The record of service of the engines at work for years has abundantly established their correctness, as well as the excellence of materials and workmanship.

One of the greatest things that has been accomplished is dependability, a positive response of the engine whenever called upon. An engine that



(which cannot be done with other burners) proves conclusively that it gives a perfect combustion, makes no smoke and you get all of the best there is in the oil—and the same soft heat that is attained by coal or coke.

The device does not produce that sharp cutting flame that jet burners produce.

These burners are in successful operation in a number of large plants in Los Angeles, and are showing a saving in oil, varying as to conditions of the different plants. They are put in subject to approval.

It is and has been successfully operated in the larger manufacturing establishments east of the Mississippi river in the heating of iron and steel of every form and under boilers of various types, competing with soft coal as low as \$1.35 per ton, defeating electricity on every form of welding.

SELECTING A FARM POWER.

Farmers are now pretty well assured of the great advantages of an engine on the farm, but are often at sea as to what particular make they should buy. Without attempting to settle that question, it may be suggested that they cannot go wrong in making a selection from the admirable line of gasoline engines manufactured

cannot be depended upon to start quickly and positively is of little value anywhere, especially to the farmer whose power jobs require frequent stopping and starting.

Smooth, even-running and generation of the full rating of power is another feature that is only second to dependable starting. Then comes the simplicity and ease of control for which these engines are noted. And lastly, economy. The engines are adapted to the use of gas, gasoline or denatured alcohol for fuel. Well posted power men agree that whatever the fuel, the minimum is consumed for the power delivered.

The engines are made in several styles and range in size from 1 to 25-horse power. International local agents are able to supply catalogues and answer all inquiries. Anyone about to buy a power will do well to talk the matter up with the local International agent, with whom he is most likely acquainted. This will result in the selection of an engine combining highest efficiency with adaptability to needs.

The Sacramento Union maintains that the present hop situation is not justified by the crop of this year. The production is such that better prices should be paid than are now being offered.

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street. Los Angeles.

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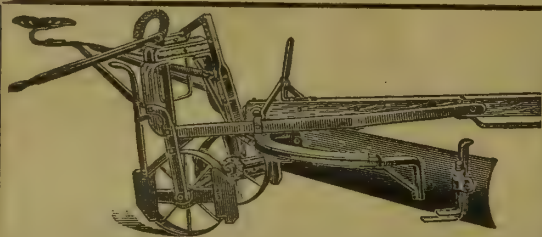
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Easy to guide; strong, compact and easy adaptable to every condition demanded. It needs but one man and two horses to operate it. Notice the "no skid" rudders on the wheels. They are raised in the picture; when lowered they guide the machine straight ahead. The moldboard is six feet long. Has adjustable shoes shown at ends of moldboard to gauge depth to which moldboard should cut. It's a very desirable machine for road-building in city or village. It makes good roads and keeps them so. Although made of steel and malleable iron, still it weighs only 600 pounds. The

20th Century Grader

saves time of three men and two extra horses. It is easy on the horses. Has blade in front of wheels. Moldboard reversible. Machine turns in 6 ft. circle. Built for road-grading, Ditching, Land Leveling, Foundation-digging.



For Irrigation, Canal Building Etc.

The price is lower than most such machines. We send it on free trial. Write us for our handsome booklet, "Delightful Roads." It's free and tells you all about the 20th Century.

The White City Grader Company Box 26, White City Kansas

Jno. Schilling, Jr., Sales Agent, Davies Warehouse Co. Los Angeles

Spraying a Small Orchard

Requires a small spray pump—but a good one. You want just as good fruit as the owners of large orchards who use power sprayers—and you can have it. Any spray pump has done its part when it provides a high, even pressure, keeps the spraying material well stirred, gives no trouble, and works reasonably easy.

Bean's Little Giant Pump

does all this and more. When we say it "keeps the material well stirred" we mean it too, and it's important if you want good fruit. And the "no trouble" feature lets you feel good natured after the days spraying is over. The valves can't clog, the stuffing box can't leak (because there isn't any) and the pump is so simple it is a pleasure to use it. Of course we have good pumps cheaper but **Bean's Little Giant** is altogether the best barrel pump ever offered for spraying small acreage. Also a splendid white-washer



We have samples of these pumps in stock and will be pleased to show them to you.

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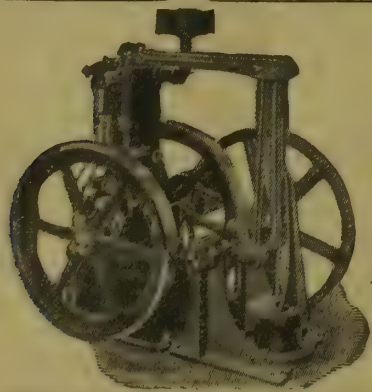
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The Little Wonder

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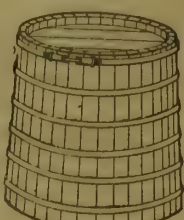
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MILL MACHINERY OF ALL KINDS
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We Pay the Freight

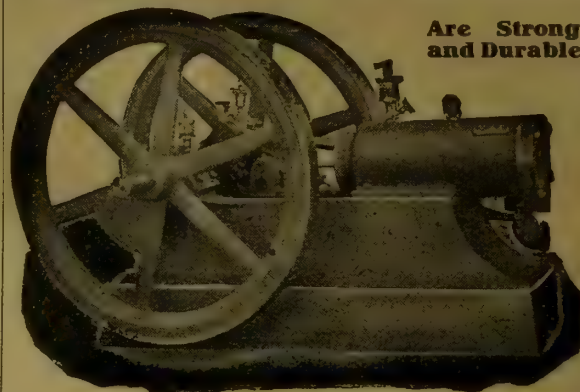
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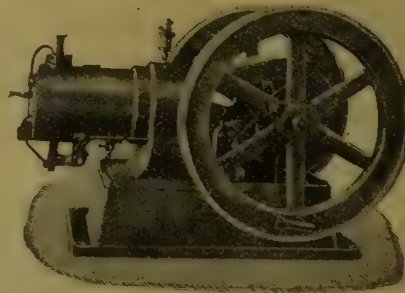
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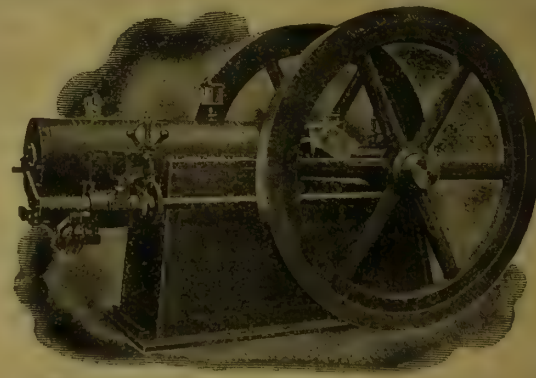
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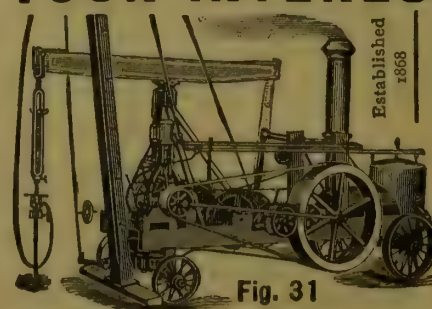


Fig. 31

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A Booklet, "The Whole Story About Wood Pipe," mailed free upon request.

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California Cultivator

Los Angeles November 28, 1907. San Francisco

The Effect of Nurse Crops on Alfalfa

Observations at University of Arizona as to Nurse Crops. They Hinder Development, Cause Slender Plants, and Lessen the Yield

ALTHOUGH nurse crops, especially wheat, barley and oats, are often sown with alfalfa, it is in recent years decreasing. It has been found that the young alfalfa does not usually need the protection afforded by a nurse crop and that it does not profit by dividing space, either above ground or below, with other plants.

In the fall of 1905, with a view to ascertaining the effects of nurse crops upon alfalfa under Southwestern conditions, the writer planted successive plats of alfalfa in pure culture, and with wheat, rye, barley and oats as nurse crops. Conditions of irrigation were identical, observations being made in March following, upon the well grown plants about three weeks before blooming.

Effect on Height of Plants and Stooling.

At this time the height of the plants in the pure culture was from 15 to 17 inches. In the nurse crop the alfalfa varied from 12 inches down, being generally not more than six or eight inches high. Near the edge of the pure culture plat the plants at this stage had generally two or three full grown stems, decreasing to as few as one or two in the middle of the plat. With the nurse crops, however, the alfalfa plants had but one stem.

The alfalfa plant also stools or throws out shoots from the crown, which in turn become other stems. The more vigorous the plant and the more room, light and food supply it has, the more numerous are these offshoots, as was observed on plants near the edge of the plat. In the middle of the plat the number of shoots was materially less. Plants having two full grown stems uniformly had considerably more shoots than those with one stem. Alfalfa plants in the nurse crop uniformly had few shoots, only a fraction as many in number as those on plants in pure culture. It follows in connection with these observations that the tendency of nurse crops is detrimental, due to the fact that the better the exposure of alfalfa to the external factors of growth, as food supply and light, the greater is the vigor of the plant.

Effect on Weights of Plants.

The weights of ten average alfalfa plants from various cultures were taken and found to be as follows:

From pure culture, ordinary stand.....	75.0grams
From pure culture, too thick.....	21.3 "
From rye, two-thirds stand.....	10.2 "
From wheat, one-half stand.....	12.5 "
From wheat, full stand.....	2.0 "

From these figures appears even more strikingly than before the injurious effect of a nurse crop on the development of young alfalfa. Further, it may be remarked that alfalfa which has been shaded by a nurse crop or otherwise, lacks in firmness of substance as compared with plants grown in pure culture and with full exposure to light.

Effect on Root Development.

Observations were made also on root development in the different plats. Here the differences

are more striking than above ground. Alfalfa roots in pure culture had, at the time of these observations, reached a depth of about 18 inches, whereas those grown with nurse crops had only in the thinner stands of such crops attained to a depth of twelve inches. Further, the same dif-

nurse crop plants used as intercultural in an adjoining rather thin stand of old alfalfa. The intercultural crops in old alfalfa were planted for about one-third of a stand. In the case of rye, there was no material difference in height between the pure culture, the nurse crop and the in-



Irrigated Alfalfa in Colusa County
Scene near Princeton

ferences in vigor of development were found under ground as above, for in general the roots of alfalfa plants grown with nurse crops were thin and spindling as compared with those grown in pure culture, and they were much less branched.

Cause of Ill-Effects of Nurse Crops.

Lack of food supply or water could not account for this difference between plants grown with or without nurse crops, for the land is naturally rich and was kept well irrigated. The injurious effects of the nurse crops must be attributed, to a considerable extent, to their shading the lower and slower growing young alfalfa plants. In fact, alfalfa plants grown with nurse crops have every appearance of suffering from insufficient light. The development of leaf expanse is greatly reduced, the internodes are abnormally lengthened, but decreased in number, the plant substance is soft and watery, showing insufficient elaboration of food material, and the root development is small.

Effect of Alfalfa on Nurse Crops.

Observations were also made as to the effect of alfalfa on nurse crops, and upon the different

terculture; but the rye planted as a nurse crop or as interculture would not tiller; and as a nurse crop it made somewhat slenderer stalks than it did in pure culture. The weights in grams of twenty-five representative stalks of each of the three plats were as follows:

	Rye	Wheat	Oats
	Grams	Grams	Grams
As pure culture.....	225	298	212
As nurse crop with alfalfa.....	122	165	161
As interculture in alfalfa.....	139	127	48

As remarked above, the cereals grown as nurse crops or intercultural did not tiller. They made only one stem from each seed. But rye growing in pure culture on the edge of the plat, where it had more light, stoolled abundantly; for instance, one ordinary stool having twenty-three stalks and another thirty-nine.

A Practical Test.

A practical comparison was made on a field scale between alfalfa planted with and without a nurse crop in the season of 1904-05. A piece of land was at that time stocked down to alfalfa, using oats as a nurse crop. Adjoining was a piece in pure culture. The difference in the develop-

Concluded on First Page

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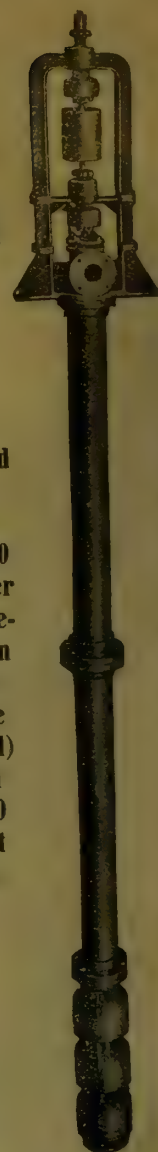
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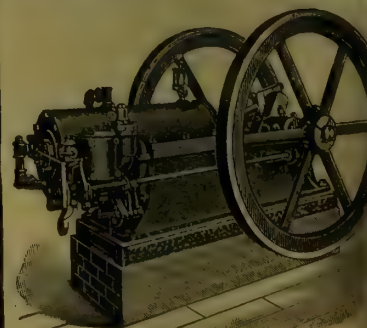
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California Cultivator

Vol. XXIX—No. 22 Los Angeles, California, Thursday, November 28, 1907 Subscription \$1 a Year

Paspalum Grass a Native of America

The Pasture Grass Which Has Proved So Profitable in Australia Has Never Been Planted Extensively Here

Interesting Letters from PROF. WICKSON and A. F. WOODS of The Department

THE CULTIVATOR recently contained an article on Paspalum grass, which caused much comment and a number of growers from all over the State. The article was sent the Cultivator by a gentleman in Eastern Australia. In that section it is proving successful. In this country it has been tried with indifferent success. Prof. E. J. Wickson of the University of California writes regarding it:

Prof. Wickson's Letter.

"Concerning the Paspalum grass discussed in the clipping from the Cultivator. I can only say that it has been growing in California for a good many years at the Experiment Station, and to some extent in the hands of private growers. It seems to have made the greatest success at the Fulare Station, where it has manifested very notable drouth resistance, and a disposition to catch and hold in spite of heat and drouth. In the coast region north of San Francisco there are other grasses which are superior; for instance, the rye grasses seem to be better worth sowing here. There ought to be wider trial of the grass in this State, and we shall try to secure that. The motive of B. Harrison, whose writing you quote in the Cultivator, was manifestly to create a sale for the seed in this country, and he has succeeded notably in that effort, as I understand it. It is interesting to note that Mr. Harrison began his propaganda in this country by a letter to the San Francisco Examiner in July, 1906. The seed was, however, distributed in this State by our Station some years previous to that time, and did not seem to manifest wide enough value to justify pushing. As I say, however, we are likely to give it another trial distribution."

A similar query was addressed the Bureau of Plant Industry of the Department of Agriculture and the following is received from Acting-Chief A. F. Woods.

Mr. Wood's Letter.

"I will say that the grass is a native of this country, and is quite common in our southern states. It, however, has been growing under cultivation, but very little, and we are unable as yet to make any definite statement regarding its value as a cultivated grass. Our experience so far indicates that it cannot be grown in sections where severe frosts occur, as it winter kills very easily, and on this account would have to be sown every year. The cost of seed and difficulty in securing a stand of this grass makes this impracticable. There is very little danger of it becoming a serious pest like some of our aggressive grasses, as it does not possess the same general characteristics as does such grasses as Bermuda and John grass. I am taking pleasure in inclosing a copy of a circular, which we have prepared, and which I think will give you the information you desire."

The circular which Mr. Woods inclosed is as follows:

Paspalum Dilatatum.

"This grass is known also under the names of Large Water Grass, Golden Crown Grass, and Air-Flowered Paspalum. It is a smooth perennial, with a deep, strong root system, and grows in clumps or bunches 2 to 4 feet high. The leaves are numerous near the ground, but few on the

stems. Paspalum produces seed rather freely, but owing to the fact that it ripens from the tip downward and shatters off as soon as ripe, good viable seed can be gathered only by hand.

"Paspalum dilatatum is a native of South America and perhaps also of the Gulf States. At any rate it occurs apparently native from North Carolina to Florida and west to Texas.

Importance.

"In Australia, paspalum has proved to be a valuable grass. Agricultural writers claim that it has transformed the north coast of New South Wales into one of the most profitable dairy regions in the world. It is said to remain green when all other grasses are dried up, and several successive cuttings, aggregating 13 tons (green feed) per acre, were obtained at the Wollongar Experiment Station the season following the seeding. In the Tweed district paspalum pasture is said to support one dairy cow per acre the year round.

Cultivation in the United States.

No extensive cultivation of this grass in the United States has been attempted. In the Southern States, where it spreads naturally, some farmers have permanent meadows, or pastures consisting largely of this grass. Owing to its tendency to lodge, it is better adapted for pasture than for hay.

"Southern experimenters claim it to be one of the best winter pasture grasses for heavy, moist, black soils. It remains green all winter unless injured by severe frosts, and persistent grazing will not injure it. An immense number of leaves are produced, which are renewed more quickly after grazing than those of Bermuda grass, and under favorable conditions a paspalum pasture will last indefinitely. The character of the sod is improved by mixing redtop seed with the paspalum, as both grasses do well on the same class of soils, and

the latter is too bunchy to cover the ground evenly when planted alone.

Culture.

"Great care must be used in seeding paspalum to have the ground in the very best possible condition. The seed is very light; hence it is best to sow broadcast 5 to 10 pounds of hand-picked seed per acre. Sow on ground which has been thoroughly harrowed, and then roll or plank the seeds in.

"In the Southern States it is usually best to sow in October or November. If it is used for soiling or hay, it should be cut before the stalks become coarse, as the quality is much superior if the grass is cut when 18 to 24 inches high. By mixing the seed with that of redtop, Bermuda grass, and winter vetch the grazing capacity of the pasture is much increased, and the tussocky character of paspalum meadows is largely overcome. North of North Carolina and Arkansas this grass winterkills and should therefore not be planted.

"Under irrigation paspalum has proved to be an excellent forage grass in the San Joaquin Valley, California. Judging from the favorable experience, paspalum ought to be valuable as a dry-land grass in many parts of the southwest, where it should be fully tested. Farmers are cautioned, however, to test it first on a small scale, as the seed is expensive and the chances of success doubtful.

Seed.

Seed of paspalum is quite high priced and usually of low germination. The best hand-picked Australian seed rarely germinates over 50 per cent. and costs 40 to 60 cents a pound. In the Southern States the flowers are commonly affected with a black fungus, which seems to injure the seed. At any rate southern seed is very poor, often germinating only 5 to 10 per cent.

The Effect of Nurse Crops on Alfalfa

Continued from First Cover Page

ment of alfalfa in the two fields was so striking that an examination was made. That in pure culture was about 18 inches high, being of the usual height and development. That planted with the nurse crop was noticeably thinner on the ground, generally not more than eight inches high varying down to not more than two inches, and little developed generally. In the pure culture the roots extended downward to a depth of about two feet and sometimes deeper. The roots of alfalfa planted with oats generally extended down from two to six inches. It is evident that deep-rooted plants like those in pure culture can stand drought longer than can shallow-rooted plants, like those grown with nurse crops, even if all other conditions of vigor of growth are equal. Just these effects due to differences in root development showed themselves strikingly in the experimental plats later on. Through May and June a shortage of water, usual at this season of the year, was experienced, and these fields could not be irrigated until summer rains came in July. The second crop on the pure culture plat was cut about the first of June when about half-grown, in order to save the roots, the tops having begun to

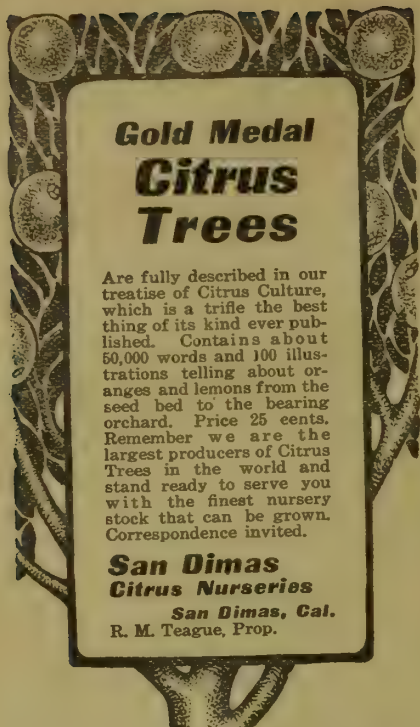
dry up. The alfalfa grown with the nurse crop had to be cut over earlier and twice in order to save the roots. When water was obtained the alfalfa in pure culture resumed growth and continued producing normally the rest of the season. The plats planted with nurse crops came on slowly, a fair cutting was not obtained until fall and a normal cutting not until the next season. In the meantime, during the drought the shallow-rooted plants had suffered more than the deep-rooted plants and save for prompt work in cutting, the stand would have been lost.

In Conclusion.

1. That the nurse crops hinder the development of tops and roots of alfalfa, especially when by reason of a thick stand or rank growth shading effects are excessive.

2. After the removal of the nurse crop the weakened and undeveloped alfalfa plants are poorly fitted to withstand drought and the stand may be lost.

3. In the average instance the loss in yield of alfalfa due to a nurse crop probably more than offsets extra return from the nurse crop itself.—V. A. Clark, of University of Arizona.



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With the Citrus Growers

SOIL.

THERE is no more interesting subject than the origin of soils.

Geologists tell us that the soil we cultivate was one time in the form of gas. That was so far back that we will leave that stage of its evolution out of the discussion. We will take up its stage of transformation when it is in the form of solid rock. The soils of most of the orange groves of Southern California are from granite, and for this reason are naturally rich in plant food. This is so, because granite is composed of crystals of a large number of minerals that supply plant food. Feldspar is one part of granite that contains potash, soda and lime; sometimes but one of these elements are in abundance and sometimes two or more of them. The lime in the feldspar gives some phosphoric acid that we find in our soils.

Weathering.

The process of decomposition in our rocks is called weathering, because the weather is the most potent factor in their breeding up. Every time there is a change in temperature, there is a corresponding change in the size of the individual particles in the rock. Every one who has walked along a railroad track just as the sun is getting warm in the morning or in the cool of the evening, has noticed a creaking and slipping sound. Before sunrise there is always a space between the ends of the rails, while at midday during our hottest weather, the ends of the rails touch. This is due to the change in temperature and the position of the rails is changed twice each day. It is just so with the small individual particles of rock that go to make up the whole. The outside crystals of granite are subject to more sudden and a greater difference in temperature than are the inside crystals, and it is thus that the surface of rocks wears off and do not disintegrate uniformly throughout when exposed.

The mechanical force of freezing water that finds its way into the crevices of rocks is a powerful agency in decomposing the material, just as in the case of water pipes bursting when frozen.

The dissolving properties of carbonic acid gas constitutes a powerful and continually working agency for disintegrating rocks. This gas has an affinity for water and the rains collect it and it thus becomes applied to the rock whether buried or projecting above ground. Lichens grow in great abundance on all kinds of rocks and they have a powerful dissolving property. When once there is a layer of loose rock above the bedrock, other plants take root in it and the process of decay is much more rapid from then on.

The decomposition of plant life increases the amount of carbonic acid and thus the solvent agencies are greatly increased. There is nothing, so far as we know, that does not sooner or later succumb to the dissolving powers of this acid, and it is continually being formed by decaying vegetation and animal matter and the breathing process of animals. It is particularly active on lime formations, and caves in limestone countries are made through this agency.

Color.

Dark soils are almost universally

rich, due to humus in them. There are two exceptions to this rule, which are graphite soils and those darkened by the lower oxide of iron. This is due to poor drainage, the iron in the soil under such conditions uniting with other elements or bases, particularly phosphoric acid. This form of iron is the same as that which scales from iron at the blacksmith's forge.

Mahogany soils are always rich, the color being due to the humus and higher oxide of iron present. This form of iron is the same as iron rust, and is indicative of good drainage. That means that the plant food materials are not injured or rendered unavailable to any great extent.

Red soils may lack humus to a certain extent, but, as stated, the mineral plant food is largely in available condition, due to proper soil drainage conditions in ages past.

Yellow and white soils are almost universally poor, because they are leached soils. They have at one time been overlaid by peat or coal beds. The formation of these deposits was accompanied by much acidity which dissolved the plant food from them, leaving the white barren substance behind.

Clay Soils.

The purest clays are formed from potash feldspar, and this accounts for the richness of clays in potash. Clay is made up of potash, soda, alumina and silica. There is clay in all soils ranging from five per cent to 50 per cent. The heaviest clays come from clay stones, and clay loams come from clay sandstones. The purest clays are used in the manufacture of porcelain ware. Pipe, potter's and brick clays are less pure in the order named.

Feldspars.

As stated above, this combination of minerals is the chief source of potash, though some feldspars contain none while others are from 10 per cent to 20 per cent potash. They contain much silica and alumina which gives clay its character.

Silica.

There are two kinds of silica crystalline and non-crystalline. Quartz is an example of the first; jasper, flint and hornstone the latter. Crystalline silica is insoluble in water but the non-crystalline is soluble. This element is little used by plants except in making the framework, in the case of straws in grain. Bamboo takes up large quantities of silica forming the outer hard casing of the poles.

The last two named ingredients of soil are important inasmuch as they are in the case of the first, the chief source of fertility, and in the last make up the great bulk of most soils.

Lime Soils.

These are considered rich. They are friable soils and contain much phosphoric acid. Lime deposits are the result of immense collections of shells either in salt or fresh water and with these shells are often quantities of bone of water animals. From these is derived phosphoric acid in form of minute water animal known as diatoms. These divide and subdivide, shedding their shells like lids of little pill boxes, which sink to the bottom, and as the division is rapid and millions upon millions of them are at work

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tinually; beds of these shells are formed in the bottoms of lakes, several feet and sometimes hundreds of feet thick.

Dolomite soils resemble lime soils, but they are mostly made up of magnesia and are, consequently, low in plant food.

Zeolites.

Zeolites are a combination of elements, among which are potash, lime, soda and alumina. They are susceptible to the action of acids and, therefore, are easily dissolved, and they also have a strong affinity for certain bases, and these two qualities make them very changeable. As a consequence, they act as a check on the rapid depletion of the soil.

Humus of Soils.

Humus is formed from the decomposition of organic matter, mostly vegetable matter, fungus and bacteria being active agencies in humus formation. Humus has a greater capacity for moisture than any of the soils, and for this reason soils containing much humus are retentive of moisture. Humus contains a large percentage of nitrogen and about 50 per cent of the available plant food of soils is found in the humus. The subsoils contain less humus than the surface soils, because less decomposed vegetation finds its way into the subsoil.

Hardpan.

Hardpan is caused, in most cases, in the central and northern part of the State, by the union of the lower oxide of iron with other minerals of the soil. In the "Hogwallow" lands this is the case; fine, small particles of soil in the form of globules are found and are known as bog-ore. Where ever this is found there is liable to be found hardpan. Alkali in excess forms hardpan where the rains are not sufficient to keep it moving in the soil. Regions in close proximity to lime deposits where the rainfall is not great will cause hardpan in the same way as alkali. The scant rains wash the mineral down to a certain depth and it collects there. Other seasons of light rainfall repeat the process till there is a collection near to the surface that forms a hard stratum. This may be seen along the Salt Lake road near Pedley.

SWEETNESS OF ORANGES.

While the following theory may not find general acceptance, it is given by a close observer of things scientific and is well worth considering by orange growers.

It is written by Leon Labonde, with the California Distilling Co.

I have been looking over the orchards in connection with the citrus null question which the California Distilling Company has under consideration, and I find a reason for want of sweetness in many of our California fruit. This, in my opinion, is due largely, if not wholly, to the indiscriminate planting side by side of oranges, lemons and pomelos.

During pollination the pollen of these trees is carried from one to the other indiscriminately by the bees, or other winged insects, causing the oranges to grow less sweet and the lemons less sour to the detriment of both.

I am inclined to think that many of the diseases of the citrus trees are likewise the results of unwise mixtures of fruits in the same orchards, and I am enquiring closely into this matter from the view point of the bacteriologist.—Leon Labonde.

FRUIT TREES EXHAUST SOIL.

"In considering the reasons why apple and other fruit trees do not bear as many or as fine apples as they did in the early days," writes Professor H. Garman of the Kentucky Experiment Station, "I have been impressed with the importance of supplying the trees with fertilizers as the soil becomes exhausted and am satisfied that the greater relative difficulty experienced nowadays, in keeping fruit trees in good condition is in part due to an exhaustion of the soil.

Trees forage more widely than smaller plants and may not show the effects of starvation as suddenly or as soon, but they must show it in time if grown long on the same land without anything being returned to the soil to replace materials removed by the trees. In this relation I was struck recently by a statement which I encountered in Professor Voorhees' interesting little book on fertilizers.

He says that twenty crops of apples of fifteen bushels per tree, and thirty-five trees to the acre, equal 1337 pounds of nitrogen, 310 pounds of phosphoric acid and 1805 pounds of potash. Twenty crops of wheat of fifteen bushels per acre equal 660 pounds of nitrogen, 211 pounds of phosphoric acid and 324 pounds of potash.

Therefore, according to Professor Vorhees, twenty crops of apples remove more than twice as much nitrogen, half as much again phosphoric acid, and nearly three times as much potash, as twenty crops of wheat. A good farmer would hardly think of growing twenty successive crops of wheat on the same land, no matter how good it might be, and it would seem to be still greater folly, according to the figures given, to attempt to grow twenty successive crops of apples, without returning anything to the soil."

LARGE LEMON PLANTING.

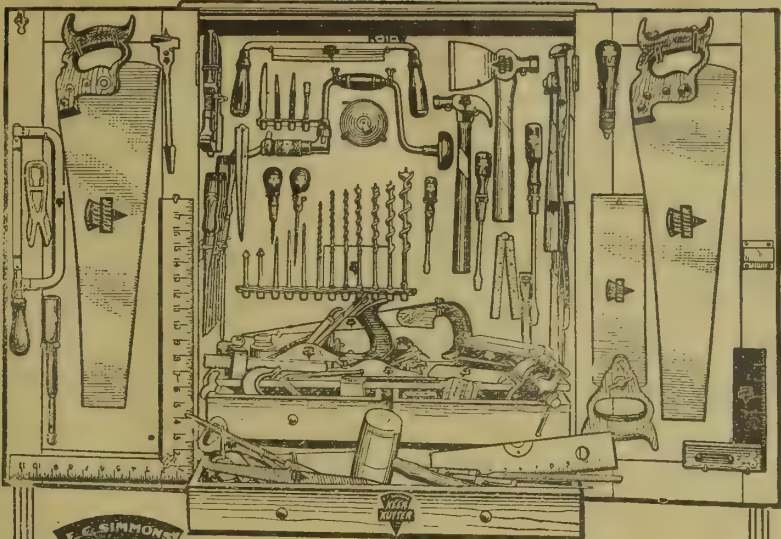
Amongst other liberal plantings of lemons this year will be that of the California Coast Lemon Co., in Ventura county. This company has bought a large tract of land of the large Santa Clara Rancho and as fast as first class lemon trees can be secured it will be planted.

F. K. Adams is its secretary and manager. Mr. Adams has wide experience with lemons and oranges, having been at the head, as manager, of the Pomona Fruit Exchange for years.

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The following, which appears in the Handford Journal, is said to be one of the best ever for killing squirrels:

One and a half ounces powdered strychnia, half ounce powdered cyanide of potassium, one pint of granulated sugar, one pint water. Directions: Dissolve sugar and strychnia in about two-thirds of the water (heating it to a boiling point, but be careful not to let it boil) and dissolve the cyanide of potassium in remainder of water. After heating it allow mixture to cool a little, and then mix. Put five gallons of clean barley in a tub and throw the mixture over it and stir thoroughly, and then put on a mixture of eight or ten drops of anise and stir again. Cover the tub and allow the mixture to stand for twenty-four or thirty hours.



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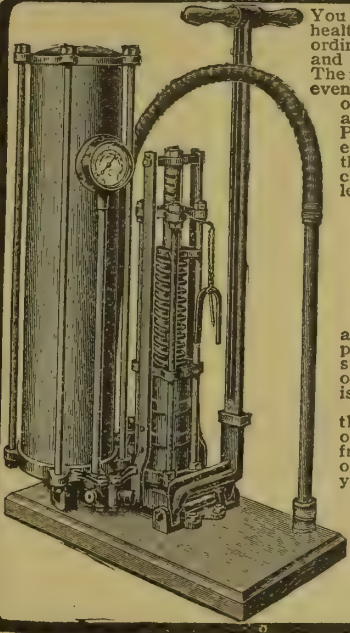
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Live Stock and Dairy

DAIRYING.

THE great dairy breeds of cattle were formed by poor men seeking to make the most of their farms. At first it was always by selecting the calf of the best cow and mating them with another "best cow's" calf that finally developed a type. This type showed the modification of food, climate and the taste of the owners. Man has ever his notions as to the colors of his domestic animals. The red color of the Shorthorn; the red of the Hereford; the solid color of the Jersey and the black and white of the Holstein are all man's fancy. All these breeds show other colors that are as good animals, but have been promptly suppressed as not according to rule. In the Shorthorn it took the breeders years to educate the judges of the show rings to admit that a roan or white was as worthy a prize as the solid red. The Herefords of Nevada outrank those of California by the high color of their hair. The Jersey breeders have come to accept the white on the cow, though there are still individual buyers that will not consider an animal of broken coloring as good. While the Holstein Breeders' Association flatly refuse to register an animal that is not black and white.

The five breeds of dairy cattle in use in the United States in numerical order are Jersey, Holstein, Ayrshire, Guernsey, with a herd or two of Belted Dutch and Brown Swiss. There are also some good herds of so-called dual classes, the Shorthorn and Red Polled. The Kerrys and Norman French cows are also in use in limited quantities, but are too few in number to be available for ordinary purchasers.

The Jerseys and Holsteins are the prevailing breeds in California in the greater portion of the interior. There are some good herds of Ayrshire on the Southern coast, and a few choice Guernseys owned individually. One or two small herds of Brown Swiss in Fresno county. I was naturally anxious to see this breed succeed here, but as the cattle were not in the hands of a breeder they have had little chance. It is always the old story of men thinking that any one can raise cows. Then why do they not? There is more money in fancy cows than in any other industry that a farmer can follow. Yet see the good blood constantly wasted in dairy cows! I have a neighbor that has a dairy and he told me the other day that he could not raise as good cows as he could buy. He had some of my registered cows' offspring purchased to head his young herd. I listen with sorrow, for it seems too bad that a man with a willingness to have good cows cannot educate his eye and have the imagination to see into the future, the unborn type he has pictured coming into actual form in his herd.

It is often asked at Farmers' Institutes how the breeds of registered cattle were formed. When a portion of the country had a few superior animals the first records were kept after the manner of the Arab horse breeders, by using the sire's name alone. Now if Tim Jones had an extra good milch cow

and her name was Kate, he perhaps called her son Jack. Every one in the neighborhood would know Tim Jones' cow Kate. They also would like to have every one know they owned cows that were daughters of Tim Jones' Kate's Jack. Shortly cows would be for sale that were Jack's get and would be sold as Molly by Tim Jones' Kate's Jack. Each generation having the sire's name held in combination until the name became burdensome when they would be written down and the cow's name shortened and a number added so that by referring to the list, the breeding was at once assured.

These records followed the great blood lines. When finally the men that kept these lists became overburdened by the work, they gathered together the men having cattle of the breeding represented and formed an association.

The fees paid for the printing and for the clerical work. When the official herd book was established, the first cattle that were recorded were sworn to be by the sons of certain cows, who were by certain sires, so that at least three generation of descent could be certainly identified by enough witnesses. After a lapse of a certain number of years the Herd Book was closed for new families and only animals whose parents were recorded were eligible for registration. It is needless to say that at first the anxiety to have as many animals in the Herd Book as possible led to some that were valueless as dairy animals being put in. These becoming heads of families. But soon within the Herd Book families, it was recognized that some families were greater or more potent in their transmission of dairy qualities than others. Their cash value rose rapidly above the rest, so that they soon became the leading sires and were purchased to head the less desirable strain until the warmer blood gradually predominated.

The invention of the Babcock did more to raise the standard of the dairy cow's production than any thing that had ever had come into her history. The churn test had been manipulated until it was not regarded as of value. The butter maker that could not add thirty or more per cent to the overrun in testing a cow was hardly up to his business. The Babcock test is accurate if the bottles are properly measured, or calibrated in the neck. They are readily measured by an one having a standard bottle to test them by.

The problem of sorting the sheep from the goats of the dairy cow was readily met by the association of dairy cattle establishing advance or official registration, on the production of the cow. The testing is to be done by an official sent from the Experiment Station of the State.

To meet the expense the association offers handsome cash prizes for the best records each year. These records are placed in a second herd book under a new number so that a cow has a blood number and a performance. This naturally makes the cow more valuable, as it has performed, or if it is at the head of the

Veterinary Instruments, Black Leg and Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

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pigs at low prices. G. A. Murphy, Perkins, Cal.

herd, then his daughters have been
within the lines of production re-
quired.

Those that handle well-bred stock
know that it soon pays for itself,
for even if the first cost is relatively
high, the fact that the offspring is as
good or better than the parents un-
der reasonably good handling, is as-
sured. The tested cows are best of
all, for while an untested cow may
be fully as good as a tested one, no
one has found it out. Even in a
cow a good reputation is a fair es-
tate.

The result then, of breeding for
certain purposes, becomes fixed in
the type. The cow is governed by
habits that takes physical form.
Just as the people of Africa are
black and those of Europe are white.
The type is fixed so strongly that we
today do not believe that a white
man living in Africa would have the
pigment of black come under his
skin in an ordinary life time. We
know that the beef and dairy cow
differ in their physical makeup ma-
terial. In a few thousand years if
the conditions of dairy and beef
raising go on as they are doing now,
we will have two animals greatly
differentiated in their physical
makeup.

A dairy cow has the wedge-shape;
her backbone is rough with the ver-
tebra prominent. The neck is ewe-
shaped, the throat and breast clean
from extra fat. The face is femi-
nine with full eyes, large, loving and
kind. The muzzle and jaw are short
and strong. The ribs are set to al-
low a large stomach space. The
chest is broad enough to give heart
room and broad enough to have full
play for the lungs. The chest is not
as expansive as in the beef animal,
but large enough for free air spaces.

The bones of the hips stand out
prominently, the thigh is distinctly
incurved to allow udder space. The
hams are cat-shape. The rump
stands higher than the withers; the
tail is long and slender. On the
stomach are the long tortuous milk
veins; these can hardly be too long
or too crooked. The milk wells are
the opening where these veins leave
the body. Now the test of the value
or amount of blood flowing in these
veins can be made by compress with
the finger the flow at this opening.
If it is strong, the veins show it and
the heifer will make a fine cow.
Sometimes the largest flowing milk
veins do not carry as large an
amount of blood as others that are
more active.

The beef cow has a different meta-
bolism to her body; she builds the
fat on the outside and in through
the fibre of the muscles. The wide-
ly sought tenderloin and sirloin are
simply the great thigh muscles much
swelled with fat.—M. E. Sheman.

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Bulls—Butter Boy De Kol Korn-
dyke Colantha, L. A. Hall to M. M.
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Aubrey, J. C. Thorn, Jr., to F. M.
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erside, Charles D. Pierce to J. H.
Guill, Jr., Chico. Ignora Duke, L. A.
Hall to Jim McGillivray, Sacramento.
Korndyke Fresno Boy, John A. Stew-
art to James Probert, Dos Palos.
Nicolina Youth De Lone, J. C. Thorn,
Jr., to J. D. Beckwith, Portersville.
Tanawaska De Kol, William Niles to
Foster Bros., Lankershim.

See us for Sanitary Milk Bottles. O. J.
Weber Co., 555-557 S. Los Angeles street.,
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CARE AND TREATMENT OF A SICK ANIMAL.

Place the sick animal in a well dis-
infected, ventilated and dry box stall
with plenty of bedding and sunlight.
(Avoid draughts.) In cold weather
put a blanket on, feed sparingly of di-
gestible food, such as bran mash
made with linseed tea. Keep manger
sweet and clean. Water should be
pure and clean, and warmed when
necessary. It is always necessary
for new milch cows.

An injection of warm water per
rectum should be given all sick ani-
mals, excepting those afflicted with
looseness of the bowels.—By Dr. David
Roberts, Wisconsin State Veteri-
narian.

A PAYING FARM PROPOSITION.

One of the best paying farm proposi-
tions an ambitious man can take hold
of is cattle feeding either for market
or for milk.

Now that agricultural science has
given us an insight into the actual
principles which lie at the foundation
of the business, it is a mere matter of
applying them in daily practice to get
good profit for ourselves. Feeding
corn meal, or any combination of
feeds, won't necessarily make beef or
produce milk. Your steer or cow
has got to digest and use its ration or
the manure heap will be the richer
and you the poorer. In other words,
the simple act of feeding doesn't al-
ways produce results.

Here is where farm science comes
to the rescue. The new idea on feed-
ing tells us, first of all, that the steer
or cow is like a machine, and that the
feed each gets is raw material which
we wish to turn into flesh, fat or milk.
Now if your steer or cow, as machines,
don't work properly, a greater or less
percentage of your feed is bound to be
wasted. That is, animal digestion
must be absolutely right if the great-
est gain is to be made.

But it's impossible to keep the stom-
ach and intestines working right when
they are constantly forced beyond
natural limitations and that is what
every feeder of live stock is doing
when feeding for market or for milk.

From which it follows that anything
capable of continuing the digestive
function in healthy activity during the
weeks or months in which the fattening
process is going on, will solve the
problem to the feeder's satisfaction.

Experiment has proved conclusively
that a preparation containing true ton-
ic elements, blood builders and nitrates
(which are well known as cleansing
the system) is an actual necessity in
the cattle business. In fact, the great-
est success is impossible without it.
Just as well expect to preserve your
own health and stuff with rich food
for a period of months as to expect
your stall-fed steer or cow to do so.

The "food tonic" idea has come to
stay in the cattle feeding business—
success depends on it. Your animal
must be "toned up" and strengthened
by these mild elements which great
medical writers, like Professors Win-
slow, Quittman and Finley Dun, recom-
mend as beneficial. Give it to the
horses, it will make them fitter and
more salable. Lambs grow faster,
swine fat quicker—indeed all live
stock profit depends upon this tonic.

Some one has said that any one
can turn the handle of the separator.
While it may be true that any one
can turn the handle, it takes a smart
man to tell just how fast it should
be turned. Turning too slowly leaves
too much milk in the cream.

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larly treated. Dr. Hess Stock Food is
a tonic which makes perfect digestion
in any domestic animal. It contains
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cleanse the system of poisonous matter.

It is the prescription of Dr.
Hess (M. D., D. V. S.), himself
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feeding.

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California Horticulturally

OPENING OF THE DAVISVILLE FARM.

A VERY large Farmers' Institute, which practically introduced the new State farm to the farmers, was recently held in the new farm buildings at Davisville. The programme was a very excellent one and the sessions were well attended. The new farm is now in operation, the dairy department being the first to get under operation. The establishment of this farm is one of the best movements in an educational direction which has been made, for here the sons of our farmers and horticulturists can be instructed in practical and scientific agriculture and given a start in the best methods of work, with the reasons why the methods shown are the best. The separation of this branch from the Berkeley college is a good thing, too, as it removes the agricultural students from those who have been in the habit of sneering at them and surrounds them with their own class. It will also teach them practical work on the farm, and with over 700 acres of excellent land, abundant water for irrigation and all modern facilities for work there is no reason why the State farm should not turn out some of the best farmers in the country in the future.

PROTECTING TREE BUYERS.

Kings county has adopted an ordinance requiring a bond of \$5000 from outside nurserymen doing business in that county. Every county could pass a similar ordinance, and the result would be that all outside nurserymen would be practically prohibited from doing business in the State. The nursery business is both a legitimate and a beneficial one, and the outside nurseryman who sells us good stock is to be encouraged and not driven out. But, at the same time the purchaser of trees should be safeguarded. He should have some assurance that the trees which he buys will turn out as represented, and when he has spent several years of time and labor and been out a large amount in money he will discover, when he should reap the reward for his toil and outlay, that he has been swindled in the deal. There should be a sufficient bond required from all nurserymen doing business in this State to protect their customers who, to a large extent, are compelled to purchase on faith, and if the stock sold is not what is represented they should have some recourse. A State bond, one to be filed with the Secretary of State or with the State Commissioner of Horticulture, of sufficient amount to cover any possible contingency should be required, and it would not be burdensome on any respectable nursery, but if every county should require a bond it will become an unbearable burden and have the result of freezing out a legitimate and useful class of business.

GROWING INTEREST IN GRAPE CULTURE.

There is a strong and increasing interest being manifested in viticulture in the northern counties, and all through the Sacramento valley grapes are now the principal topic of interest among fruit men. This is probably due to the big profits which have been realized from vineyards during the past few years. Shipping grapes

are in the lead, and of these the Flame Tokay, Rose of Peru, Black Prince and Cornichon are favorites in the grape sections of Sacramento and San Joaquin counties. In Yuba and Sutter counties there is a great deal being done in Thompson's seedless. This has proved an excellent shipper and when once known is popular. It is a heavy and regular bearer, berries small, but clusters very large. It is a high flavored grape and, being seedless, is superior for cooking purposes. In all the country north of Stockton and south of Red Bluff there is a vast acreage being prepared for planting to grapes during the coming winter, and vines and cuttings are now in active demand and hard to get.

NORTHERN ORANGE SHIPMENTS.

There has been a big demand for oranges from Australia and, in order to take advantage of the market there offered, heavy shipments of oranges have been going forward from the northern citrus sections for some time past. Very much of the fruit which has been shipped would have been much better had it been left on the trees for another month, but the shippers claim that it is sweet and that it will color on the ocean voyage. Whether this be so or not, there is too much of an effort to take advantage of the early markets which results largely in discrediting our fruits abroad. This is not only true of citrus fruits, but of deciduous also. Very much immature and tasteless fruit is forced on the Eastern market, and as a result there are many people who decry California fruit, and the market is seriously injured thereby.

INTEREST IN EUCALYPTS.

There is a growing interest in the culture of eucalypts all over the State, and in Northern California especially, everything that relates to the growth of this valuable group of trees is sought with avidity. In view of this, we draw attention to a leaflet recently issued by the Forest Bureau of the Department of Agriculture, and which contains a great deal of valuable information concerning this tree. Any of our readers who are interested can procure this publication by addressing Gifford Pinchot, chief of the Forestry Bureau, Washington, D. C.

PREPARING FOR FRUIT GROWERS

The people of Marysville have taken up the work of the coming fruit growers' convention in good earnest. Arrangements have been made to hold the session in the Presbyterian church; the ladies' clubs of Marysville and Yuba city will arrange for entertainment of visitors. Free excursions will be given over the electric roads; a committee is now at work arranging for accommodations for all who attend, and nothing will be left undone to make the convention a pleasant as well as a profitable one.

AN EXPLODED THEORY.

Little Sister—"Oh, mamma I've got a canker on my toe!"

Big Brother—"That isn't a canker. A canker is what they throw overboard on a ship to make the ship stand still. What you've got is a pop-corn!"—Woman's Home Companion.



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Can Make Big Money
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References: Broadway Bank & Trust Co.

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The Vegetable Garden

TOMATO BLIGHT.

A LARGE number of tomato growers met at Whittier last week upon invitation of Prof. Ralph E. Smith of the State University force.

Prof. Smith has experimented largely with Bordeaux mixture and made a showing of its effectiveness which was surprising.

A news report of the experiment says:—

The practical demonstration at the State University pathological laboratory in Whittier seems to have settled the question in the minds of over 200 growers assembled from all the tomato growing belts.

The laboratory garden spoke for itself in terms so certain that none who viewed the tomato vines could entertain skepticism. The tomato patch consists of one-half acre, set about fifty varieties of plants. Professor Smith experimented with Bordeaux mixture, making the application with a sprayer immediately following each rain, and at the time when plants were wilting all over the country. The sprayed plants are in evidence today, thrifty and firm, while those in the same patch, not sprayed, met disaster at the blight's onslaught. The tomatoes on the sprayed plants are perfectly preserved and free from blight indications, even at this late day in the year.

The demonstration answers the question, "Does it pay to spray?" affirmatively under ordinary conditions.

Professor Smith finds that 200 gallons of the mixture will spray one acre of vines.

The cost of the mixture is from \$2 to \$3 per acre, the average being \$2.50. Eight to ten acres may be sprayed a day by three men, a team and an ordinary power pump spray with no nozzles. Figure the labor cost at \$10 per day. The mixture and labor will approximate \$4 per acre. It is further estimated that two applications will meet the requirements.

In this section last year the average price for shippers was \$40 per ton, which about three tons were taken from an acre. The average cost of growers was \$8 per ton, of which four tons were taken from the acre. This approximates \$150 per acre.

Equally as good returns were warranted this year until the blight appeared,

which caused the loss of at least \$100,000 to 500 acres of plants. At \$12 per acre, the spraying would have cost \$6000.

Conditions are not the same each year, but the point in using Bordeaux mixture seems to be merely a matter of insurance. With fair market conditions the cost of insurance seems to warrant the cash outlay.

The same treatment is equally effective for potato blight.

From Bulletin No. 175, by Ralph E. Smith of the Agricultural Experiment Station the following is taken:

"Winter blight" is a disease caused by the potato-blight fungus, which, under favorable conditions, has seriously affected winter tomatoes in Southern California. The same trouble was observed on potatoes in Sacramento County in the fall of 1904 and spring of 1905, and in the coast region of Monterey county, but is not very prevalent in California. This fungus causes a spotting of green and ripe tomatoes, dark spots on the stems and branches, and complete and sudden ruin of the crop. It occurs only after heavy rains or very heavy fogs and dews, and consequently affects only the winter crop of tomatoes. Such plantings should be sprayed heavily with Bordeaux mixture after every rain to prevent the development of this form of blight.

The formula is as follows:—

Bluestone 5 lbs.

Quicklime 5 lbs.

Water 50 gals.

Dissolve the bluestone and slake the lime in part of the water in separate barrels. Dilute the two and mix, or rather, pour the two solutions into the water, stirring constantly to prevent precipitation. Use at once.

LOB INGIR FIG.

Samson, the Maywood Colony nurseryman, is pushing as usual the famous Lob Ingir Smyrna fig. Many growers of Sacramento valley have found it successful and are recommending it. Regarding it Mr. Samson says:

The Lob Ingir fig excels all other figs for drying purposes, and people planting Smyrna figs should insist on getting this variety. The following description of the Lob Ingir is given in Bulletin No. 9, pages 250 and 278: "Lob Ingir Bulletin, Smyrna; Commercial Smyrna; (California;) Erbegli; Erbelli; Erbeili. Fruit large to very large, about two and three-fourths inches wide by two and one half inches long, decidedly flattened like an onion, being compressed in diameter of stem to eye. Neck thin, distinct but short; generally straight. No stalk, or one very short. Ribs heavy, uneven, knotted and branching. Eye large with numerous scales of amber tint, open and about three-sixteenths of an inch wide, so that the pulp can be seen through the opening. Skin the color of beeswax, smooth and waxy, shaded greenish. Pulp, pale to dark dark amber; when unripe, shaded red. Tree a strong, spreading, but rather straggling grower, with heavy branches. This fig is the best type of Smyrna, and the majority of figs imported from Smyrna to this country belong to this variety.

WORK UP YOUR OWN LUMBER.

With the ever increasing price made by the lumber trust, the proposition made by the De Loach Mill Mfg. Co. of Bridgeport, Ala., on another page, is very attractive to one who has a little standing timber of his own. A portable mill at a reasonable price can be built which will saw from 1750 to 7000 feet per day. There are thousands of these mills now in use and giving satisfaction. They should appeal to California.

Leaky roofs have a cause. How can you get rid of it?

Lay Gen-as'-co Ready Roofing, and you do away with both cause and leak.

The cause of leaky tin is rust; of leaky shingles, warp and rot; of leaky coal-tar roofings, drying-out of oils, which leaves them to crack and crumble.

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Thousands of dollars saved by farmers by patronizing us. 50,000 Lob Ingir Smyrna Fig trees, 4 to 6 ft. in lots of 100 at \$12.50; 500 and up at \$100.00 per 1000.

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It will make you more profit to the acre than any berry that grows. \$1400 actual profit has been made from one acre of this most wonderful berry. It is the largest berry that grows, a bright, rosy red and a great shipper. For pies, jams, jellies, etc., it has no equal. I grow no others. You can make no mistake by buying of me.

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LIPPIA repens is proving a fine
plant for lawn purposes on hill-
sides or where the fine care re-
quired by blue grass or white clover
cannot be given. Blue grass makes
the most beautiful lawns to be seen,
but takes work, water and intelligent
care as does no other feature of the
place. Lippia gives no such beauti-
ful, velvety appearance and cannot
be compared to such a lawn.

But put the Lippia up against the
neglected, weed-infested, joint-grass
over-run lawn, and we prefer the
Lippia every time. On a heavy slope
in a not too prominent place, and
when water is not plentiful, it is a
most desirable plant. It makes a
dense mat and bears numerous tiny
flowers an inch or so above the
ground.

Its culture is very simple. The
plants may be bought in flats at rea-
sonable prices, but it has been so
generally introduced all over the
State that it is easily secured for the
digging. The writer recently wished
some and found where a residence
was being moved and that great
quantities might be had for the ask-
ing. It had been given no water this
year and was so thankful that every
little rootlet was so appreciative for
the care and water given when
transplanted that it proceeded to
grow and prosper at once. Even the
cuttings many of them made roots
and whole plot will soon be a mass
of green.

TIN CAN CLUB.

An organization has been formed
at Monterey called the Tin Can
Club. In a circular issued the club
says: Every one of you start a nur-
sery in which to grow trees and
plants; a corner in your yard is the
thing.

To city and town folks: Each one
of you grow at least one tree.

To farm people, young and old:
Make it your business to plant useful
trees in every possible place. If you
have boys or girls get them inter-
ested.

They can gather nuts and seed of
good trees and grow them for sale.
Madrona, laurel, oak and redwood
trees, two years old, rooted in cans,
will bring good prices.

Rescue all the tin cans you come
across and take them home.

Punch holes in their bottoms and
fill with sandy loam. Select some
protected place near to a water sup-
ply and bury the cans to their tops.

Now plant in the cans acorns,
rooted seedlings or cuttings of use-
ful trees, also some table nuts and
maybe other seeds.

Hard seeds may be made to sprout
quickly by pressing them into a
layer of wet earth in a box, then
cover over with about a foot of new
horse manure.

When sprouted, plant them in
cans.

Should the cans not be well rusted
out before the time for setting out
the trees in their permanent resting
places, put a little salt about the out-
side of the cans.

All things that live require careful
attention while young, and by using
cans in the propagation of trees you
can nurse them until old enough to
plant in the open without danger of
their dying.

RESETTING PLANTS.

The critical period in the life of a
plant is when it is transplanted from
the nursery to its permanent loca-
tion. In moving trees from the nur-
sery a portion of the root area is
lost, and the top should be reduced
in proportion to the loss of root area,
in order that the newly transplanted
and unestablished plant may be able
to secure sufficient moisture and food
to supply the demands of the top.
The roots should also be pruned, so
as to protect them against decay by
cutting away all broken and muti-
lated parts, leaving the cut surfaces
smooth and in such position that
they will come in contact with the
fresh earth. After the plant becomes
established certain branches will
grow more rapidly than others and
the appearance of the plant will be
spoiled by this unequal growth.
Pruning should, therefore, be resorted
to in order to preserve a symmetrical
development of the plant without
rendering it artificial or formal in
appearance. Care should also be ex-
ercised during the early development
of a plant to maintain a uniform dis-
tribution of branches around the
central axis, if it be a tree, so as to
insure a symmetrical and pleasing
form at maturity.

At planting time the excavation
prepared for the reception of the
tree should be of sufficient depth to
allow it to be set as deep as it stood
in the nursery and large enough to
accommodate the roots without bend-
ing them, while the earth in the bot-
tom of the hole should be loosened
at least one spade length below the
general floor of the hole. In replac-
ing the soil over the roots of the
plant, a thin layer of earth should be
placed immediately in contact with the
roots and thoroughly pressed down by
trampling in order to bring the par-
ticles of soil in close contact with
the feeding roots of the plant. The
hole should then be filled and the
surface left slightly above the gen-
eral surface of the surrounding
ground.

MAINTENANCE OF A GREEN- SWARD.

Newly established lawns should
never be allowed to mature seed.
Frequent clipping with the lawn-
mower, if not made too close, tends
to stimulate the stooling of the
plants rather than to interfere with
their growth. If the lawn is located
in a dry section or one subject to
long periods of drought, it will be
necessary to irrigate or sprinkle. A
little water is an injury rather than
a benefit. If watering is begun it
should be done at night rather than
during the day, and sufficient water
given so thoroughly wet the soil.
During the winter the new lawn
should have a dressing of coarse lit-
ter, or, if the soil is poor, of thor-
oughly composted stable manure. If
neither of these is available or de-
sirable, a fall dressing of bone meal
will be found very useful. In the
spring the lawn should be raked with
a steel-tooth rake, all breaks care-
fully filled in with turf or seeded,
and the whole area rolled with a
heavy roller. Subsequent treatment
will consist in maintaining the
moisture by proper use of water and
frequent clipping with the lawn
mower.

Oroville will hold no citrus fair
this year.

LILLY'S BEST NORTHERN GROWN SEEDS

Are tested and proved best
for the West—all other sorts
being discarded. Why experi-
ment, why take chances?
You can absolutely depend on
LILLY'S seeds. Our catalogue
for 1908, consisting of 112
pages, 16 colored pages made
from actual photographs,
with full cultural directions,
is yours for the asking. You'll
also find that LILLY'S seeds are
SOLD BY DEALERS
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A Fine Stock
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I have strong, nicely rooted plants of
the following varieties and can fill order
promptly:

Brandywines,	\$2.50 per 1000
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Texas, (Burbank Beauty)	\$3.00 per 1000
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Other varieties later, also full line of
small fruit plants. If interested, mention
this paper and send for catalog.

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French Prunes and Apr-
cots, Muirs and Tusca
Clings, and many other
varieties of Peach Trees
all fine budded stock
Large stock of all the
leading varieties of Apples, grafted on whole root
and free from all pests. Also a fine stock of
Cherries, Pears, Plums, etc. Send for price list
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Plants and Seed for sale in any quantity. We
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WRITE FOR PAMPHLET AND PRICES

Deciduous Fruit Culture

WALNUT GROWING.

Walnut growing in the upper country is increasing in popularity, and many inquiries are being made as to suitable soil, climate and conditions. Many people think that the walnut will not grow out of a very limited area along the ocean front, or within a few miles of the sea, where the climate is modified by the sea breezes; and that it is very exacting in the matter of climate. This is an error, for this nut will thrive over a wide range of longitude, and gives good results very far north. In fact, we derive our varieties from England and France, where they sometimes have to withstand a zero temperature. At the same time, the walnut is very susceptible to a low temperature when it is followed by a warm day. The walnut will bear a freezing temperature if it is continuous, but not a freeze followed by a bright sunny morning. In such a case, the trees get sunburned and killed, the damage being due rather to the sun than the frost. The walnut is a deep rooting tree and requires a deep soil, an alluvium preferably, for best results. As to varieties, the Franquette is the best for northern sections, or such places as are subject to late frosts. It is a late bloomer, and is more liable to escape than the earlier blossoming

varieties. Luther Burbank and some other prominent growers advise that in planting the walnut, several wild walnut seeds should be set in the locations where the permanent tree is desired. These will start, and several smaller trees should be allowed to grow for a year or two and then all but the strongest should be removed; this should be cared for until it is four years old and then grafted with the desired variety. As a result of this method, a more hardy tree is obtained and one that will last for all time. Californians, however, are impatient for results and as no returns can be hoped for from this method for twelve to fourteen years, it is not likely to become popular. In fact, under good conditions, trees procured from the nursery should begin to bear four years from planting and will yield from eight to ten crops before the others have begun to bear, and it would be cheaper to set out nursery trees and buy the other orchard when it is ready to bear, with the money. One could do this and have a tidy balance left.

BEST OF THE WEST.

I am well pleased with the Cultivator, and could not do without it very well. It is the best farm paper for the farmer of the West that I have had so far.—Walter Hart, Kingsburg.

IS THIS NOT CRIMINAL WASTE?

At Seattle, Wash., a carload of strawberries was recently dumped into the bay by a commission firm. The berries were not dumped because they were unsalable, but simply because the market was well supplied with fruit, and this carload was disposed of in this way to relieve the market. To have tried to sell this fruit would have broken the price, the dealers claim, and so the berries were wasted.

Now, we can understand how dealers and growers desire to keep prices up to a profitable level; this is commendable, and it frequently occurs that to remove a carload of fruit from the regular market will prevent a depression of prices. But it seems criminal to remove the fruit from the market by destroying it in this way. We confess to having a feeling of aversion against destruction of any kind of food for man or beast; it always seems criminal to us to burn corn for fuel, as has been done so many times in the middle west, although this was often done when other fuel was not obtainable.

There is something wrong with our system when it will be found profitable to absolutely destroy food products. These strawberries could have been removed from the market very effectively by canning or preserving them—and they would have eventually served as food for human beings, instead of becoming food for fishes.

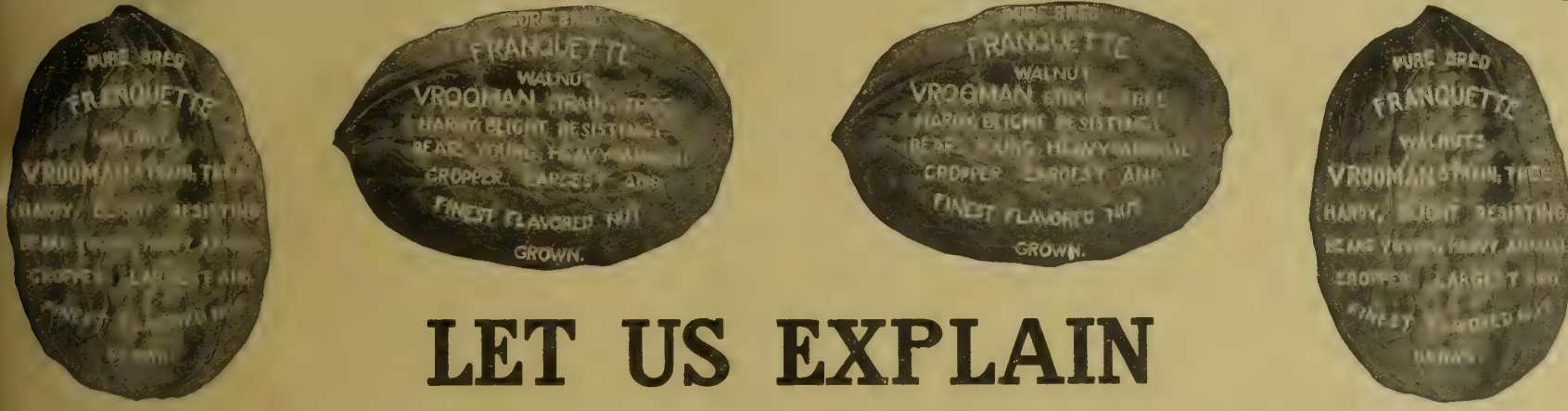
We do not advocate the practice of trying to sell fruit on a glutted market, but instead of absolutely destroying it, the fruit should be preserved in some form, so that it can be used when the fresh fruit is off the market. These strawberries would have found a ready sale in any of our markets next winter, for it is more than likely that the supply of canned fruits will be short. When we consider the dearth of canned fruits in our own cellar this season, it pains us more than ever to learn of this destruction in Seattle. Let the surplus fruit be canned, rather than destroyed.—Fruit

ANNUAL CONVENTION.

The sixth annual convention of the National Nut Growers' Association was held according to announcement and was a most enjoyable and profitable meeting to all in attendance. The deliberative work was important and carries forward lines perviously adopted and provides for the enlargement of the influence and usefulness of the body.

The next convention goes to Chattanooga, Tenn., on a date to be fixed by the executive committee, which will permit nuts of all kinds to be exhibited to the best advantage.

The Golden Orange Association of Redlands says that if possible to secure white men they will not employ Japs for picking oranges this season. C. M. Brown, an orange packer of Redlands, estimates the orange output of this year will be slightly less



LET US EXPLAIN

to you the difference between the **PURE BRED FRANQUETTE WALNUT**—as shown on the border of this Ad—and the ordinary English walnut. When you buy walnut trees, **BE POSITIVE WHAT YOU ARE GETTING.** Guessing is uncertain and often expensive.

Our walnuts for seed purposes and our scions for grafting purposes are all secured from Mrs. E. M. Vrooman's famous **GRAFTED FRANQUETTE WALNUT** grove of Santa Rosa, California. Her grove contains

ONE THOUSAND TREES---ALL GRAFTED

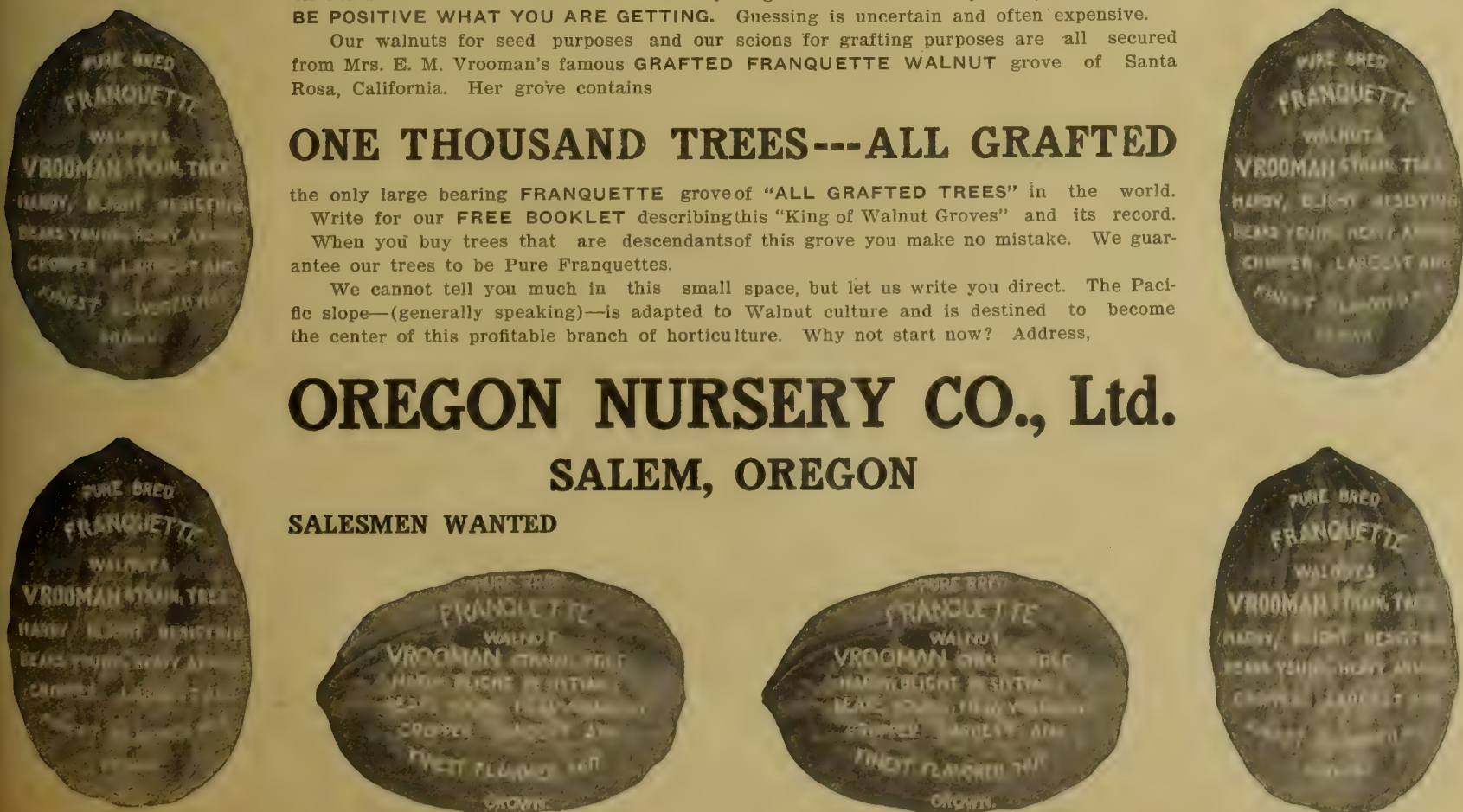
the only large bearing **FRANQUETTE** grove of "ALL GRAFTED TREES" in the world. Write for our **FREE BOOKLET** describing this "King of Walnut Groves" and its record.

When you buy trees that are descendants of this grove you make no mistake. We guarantee our trees to be Pure Franquettes.

We cannot tell you much in this small space, but let us write you direct. The Pacific slope—(generally speaking)—is adapted to Walnut culture and is destined to become the center of this profitable branch of horticulture. Why not start now? Address,

OREGON NURSERY CO., Ltd.
SALEM, OREGON

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California Cultivator

ESTABLISHED 1889

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J. B. NEFF	Walnut Culture and Irrigation
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MANY INSTITUTES THIS MONTH.

The Department of University Extension in Agriculture of the University of California announces Farmers' Institutes to be held on December third and fourth at the Salvation Army Colony of Fort Romie, near Soledad, in Monterey county; on December tenth and eleventh at Elk Grove, Sacramento county; on December twelfth and thirteenth at the Christian Colony, near Acampo, in San Joaquin county; on December fourteenth at French Camp, San Joaquin county; on December seventeenth and eighteenth at Ripon, San Joaquin county, and on December nineteenth and twentieth at Ceres, Stanislaus county.

Farmers' Institutes will also be held in Southern California, under the direction of Mr. J. B. Neff, Conductor of Farmers' Institutes in Southern California, as follows: On December second at Banning, Riverside county; on December third and fourth at Coachella, Riverside county; on December fifth at Brawley, Imperial county; on December sixth and seventh at El Centro, Imperial county; on December tenth and eleventh at San Jacinto, Riverside county; on December twelfth and thirteenth at Elsinore, Riverside county.

The Geological Survey has demonstrated that all the subterranean waters of 775 square miles in Southern California are connected, and that every well taps a common supply; and on this is the water-plane, which was twenty-three feet below the surface of the soil in 1898, is now fifty feet below. People can live beyond their means in respect to water, as well as timber, oil, natural gas, fish and game.

ANOTHER WARNING.

Hon. Gifford Pinchot, Forester for the United States government, has just completed a tour of ten thousand miles, several hundred of which was in California.

In a report made to the agricultural department he sounds a note of warning which ought to be taken seriously and acted upon promptly. He states emphatically and without hesitation, that in twenty years the timber supply on the government reservations will be exhausted, as well as private holdings, and unless prompt measures are taken to replace these reserves the country will be without timber.

In sounding this warning Mr. Pinchot urges, as he urged before the National Irrigation Congress at Sacramento, that the danger of the situation be not underestimated. He avers, and statistics bear him out in his averment, that the United States uses more timber than any other country on the globe and, when the timber is exhausted, we shall face a famine which will effect every man, woman and child in the United States. It will be remembered that President Roosevelt made this declaration in his speech on this subject.

The matter is up to Congress. This winter the Forest Service will petition Congress to appropriate a greater sum of money in order that a campaign may be made of along the line of reforestation timber lands. Mr. Pinchot says, however, that it is utterly beyond the possibility of the service to meet the situation and prevent serious trouble. One hope entertained is the Appalachian forest, and an effort will be made to protect this and promote growth there. A scheme will be advocated that will be watched with a great deal of interest. It is to give power to State Forestry Departments to protect watersheds and prevent private owners from devastating these lands in such a manner as will injure lands below. If this plan works well the Government Forester believes it will be taken up generally and will aid greatly the plans for protection of natural resources.

It is to be hoped that Congress will look into this subject carefully, and act promptly, so that the country will gradually be brought back where the timber famine now so nearly upon us may be averted or put farther into the future.

FARM PRODUCTS OUR SAFEGUARD.

The richest farming region in the world forms an impregnable barrier against any threatening wave of financial disaster in this country.

The boundless resources of the West, pulsating through their railroad arteries, are the surest possible bulwark against trouble. This is the unalterable belief of farseeing railroad presidents and the managers of their traffic departments.

The value of the leading cereals and other produce of the American farmer this year is \$324,000,000 more than it was a year ago.

With an unprecedentedly prosperous year in his immediate wake and a banner one directly before him the American farmer today is the richest and most independent personality in history.

While the national government will not estimate fully the value of the crops until December 1, preliminary deductions, usually more conservative, indicate clearly the enormous worth of the farm products.

It is this estimated value of crops based on the amount of shipments the railroads are handling, the shortage of cars, the value of the cotton crop in the South, the tremendous value of the corn and wheat crops in the North and West, the value of fruit and vegetables in California, and the booming conditions generally throughout the West that causes a general feeling of optimism on the part of those in touch with the financial situation.

The action of the New York banks in refusing to pay cash on demands drawn upon them by western correspondents, emphasizes the necessity for more direct connection between the banks of the West and the national treasury. We of the Pacific Coast must be independent of New York and Wall street operators. Were this the case we would scarcely realize the present money stringency.

Shop Talk

CLUBBING OFFERS.—The CULTIVATOR receives requests for clubbing rates with other publications. Previously it has not been our policy to take up this matter on account of our traveling agents; but now we are in a position to make you prices that will save you money on almost any list you may send us.

Many of our readers, no doubt, contemplate soon placing an order for magazines for 1908, and we make this suggestion that you send us the list of what you want, letting us price same with your renewal to the Cultivator. This is also another opportunity to subscribe to the CULTIVATOR for friends, as any or all can go to different addresses, and it gives you the benefit of quite a reduction in prices. If you should not care to wait until we can return you the price, you can safely trust us to make the order and credit your subscription at the very best rate.

Great care must be used in writing orders to write plainly and give full Postoffice address, as errors are sure to cause long delay.

Do not forget our CHRISTMAS OFFER of last week, and that all new paid subscriptions received between now and the first of the year get the CULTIVATOR UNTIL JANUARY 1, 1909.

As stated last week, for each new name you send, your subscription will be credited three months.

Order blank you will find on another page; fill it out. It is an easy and satisfactory way to make a few Christmas presents and at the same time paying on your own subscription.

THE PROHIBITION WAVE.

There is something singular about the wave of prohibition which is sweeping over the country, especially through the Southern States. It appears like the great sweep of an ocean billow, which, starting in a moderate swell, gains volume until its force is irresistible, and it breaks on the shore in tremendous detonations of thunder.

The veterans of the Civil War will remember back forty-two years, when they were unbidden guests of the South, that to talk prohibition in Georgia or Alabama, or even in Kentucky, would have engendered hostility almost as bitter as to advocate negro emancipation, or negro suffrage today. We did not dream of such a thing as a temperance wave going over the South in our lifetime, for we supposed the people were too firmly fixed in their notions of liberality along convivial lines to accept the views of prohibition enthusiasts.

Discussing this phase reform with a Southerner recently, he gave as one reason why the rural districts of the South have gone dry, the inefficiency of labor, which he said has been largely due to intemperance. So exasperated have the planters become at the indolence and shiftlessness of hired help, which they charge to drink that they determined to expel whisky and all intoxicants from southern soil. It does not appear to be so much of a campaign of morals as a campaign of self-protection on the part of the planters.

We shall not be surprised to see the same condition prevail all over the country. Liquor is the curse of the labor problem in every agricultural district. Throughout the Middle West it is especially so, and the time is coming when the farmers there will unite solidly for prohibition. It will be a relentless fight against "booze" and an eternal farewell to all the troubles which it creates.

Speed the day! Liquor is, and always was, the bane of the wage-earner. Not all, of course, but the great majority. Naturally the employers' interests have suffered correspondingly with the laborer and his family, and it will be a halcyon day for every one on the farm when liquor is banished from its domain.

The planters of the South are in the saddle to fight whisky and its allied cohorts. Soon they will have every agricultural State in the north and west, also in the contest, and from that day we shall begin to see happier hours on the American farm.

Agricultural Notes of the Pacific Coast

Northern California

Vallejo is having a pumpkin festival.

Hop prospects are said to be slightly better.

The Colusa Sun appeals for giving the farm a name.

Ripe Loganberries are on the market at Santa Rosa.

The date of the Petaluma poultry show is December 18th to 21st.

Auburn will have a large increased planting of table grapes this year.

Forty sacks to the acre is the yield of rice now being harvested at Willows.

Anderson claims that Happy valley strawberries are the finest in the State.

Alfalfa seed is almost as good as good as gold this year, and very scarce.

Prune growers about Anderson have a bonanza in their prune crop this year.

Cigars are being manufactured from tobacco grown on a ranch near Marysville.

An inventor near Dixon has manufactured a stump puller said to be very practical.

One olive grove near Redding will market twenty thousand gallons of olives this year.

The money stringency has caused cessation of work on the central canal at Willows.

"The best attended institute ever held in Grass Valley," is claimed for the recent institute.

Colusa has a pump with a ten-inch discharge which will irrigate twenty acres of alfalfa per day.

Australian rye grass is proving very acceptable pasturage at Chico, it is also being baled for hay.

Hamilton City sugar factory finished the season with fifty-two thousand and seventy-five sacks output.

Red Bluff is losing a large number of valuable horses from some strange disease which has not yet been named.

The drainage canal which has been under construction for the California Investment Company at Colusa has been completed.

Sacramento Valley Development Association is urging that the Rivers and Harbors Convention meet in California next year.

The recent rains were not sufficient to wet down the mountains to prevent forest fires. A big fire occurred back of Guerneville last week.

Application has been made to the Department of Agriculture to have a thorough examination made of the peat soils in Sacramento and Yolo counties.

Prof. Malley, an entomologist from South Africa, is here to secure parasites for the codling moth, and to investigate the methods of handling pests by parasites.

Rural papers in many parts of the State are maintaining that the special session of the Legislature is in the interest of bankers and large commercial institutions rather than the farming class.

Central California

Dinuba will have a Chrysanthemum fête this week.

Exeter's premium "punkin" weighs ninety-two pounds.

Turlock growers are realizing \$50 per ton for late grapes.

It now costs \$100 for the boxes to contain a carload of raisins.

Total shipments of Emperors from Exeter were forty-seven cars.

Exeter grapes were all gathered prior to the 15th of this month.

About fifteen hundred cars have been shipped from Pajaro valley.

There are seventeen thousand acres of vineyard in Tulare county.

"Orange picking is now in full blast and the crop is fine," says the Lindsay Gazette.

Fresno county is still working along the line of having a citrus fair early in January.

Lindsay's total shipments of oranges this year is one hundred and ninety cars.

There are eighty-three thousand orange trees planted in the neighborhood of Dinuba.

Hanford is manufacturing a new pump on the centrifugal plan which is said to be a wonder.

A large increased percentage of grapes will be planted the coming season in Fresno county.

C. K. Decker of Hanford has a hundred and four stands of bees which netted him \$4.50 per stand.

Exeter district will ship five hundred cars of oranges this year as against four hundred last year.

Various county entomologists are issuing bulletins giving formula for Bordeaux mixture, or peach blight.

The wineries are practically all closed in Fresno county and the last of the table grapes are now being shipped.

The Farmers' Institute at Wasco last week was well attended. Sugar beets was the principal topic of discussion.

The national forest reserves in California now exceed thirty-six thousand square miles, or one-fifth the acreage of the State.

Notwithstanding financial conditions the raisin market is holding up remarkably strong and the growers are generally holding for full price.

Complaint has been issued against the Spreckles Sugar Company because of dumping chemicals in the Salinas river, which killed the fish.

Turlock shipped one hundred and fifty-nine carloads of produce during the month of September. Potatoes and hay were the principal shipments.

President Roosevelt has signed the proclamation creating the San Benito National Reserve. It will contain about one hundred and forty thousand acres.

The meeting of the farmers of the Turlock irrigation district resulted in the formation of the Central California Produce Company. Directors for the coming year are: L. A. Walker, Claus Johnson, D. J. Wood, M. Bothun, H. S. Bengston, A. T. Carr and Frank McVey. These gentlemen are to be directors for the ensuing year.

Southern California

The Salton Sea has fallen three feet since last June.

Redlands has a factory for the manufacture of pulp boxes.

Imperial Standard says this is the longest alfalfa season ever.

There are hundred-pound bunches of dates on the trees near Mecca.

Four cars of celery were shipped from Paularino, Orange county, last week.

A walnut grower at Whittier has evolved a machine for gathering walnuts.

Anaheim Fruit Association shipped its first shipment of oranges last week.

A slight touch of frost visited the lower sections of Southern California last week.

Nearly three hundred cars of celery have been shipped from the southern part of the State.

Imperial valley hog raisers are somewhat disconcerted over the serious decline of pork.

Coachella is urging the necessity of a pre-cooling plant for the benefit of the cantaloupe shippers.

San Jacinto olive growers have begun picking olives which are commanding \$40 to \$80 per ton.

One machine thrashed for the Pietra ranch, near Ventura, fifty-six thousand sacks of lima beans.

San Fernando is investigating the control of storm waters which have heretofore done much damage.

El Centro ranchers are longing for the introduction of someone to love; in other words, the cry is for women.

The Submarine claims that Coachella valley will be in the market with over two hundred cars of early onions.

Government Expert Woglum is down to business in Orange county experimenting with cyanide fumigation process.

The Chase Company of Riverside has planted a large acreage of oranges near Mecca, which for two years have done well.

Some threshing of lima beans which was done too soon after the recent rains has given a low quality of beans, which are now being redried.

Oranges are remarkably mature in Southern California. More so, in fact, than ordinarily. Nearly all sections have shipped Thanksgiving fruit.

There are seven packing houses in the little town of Highlands all busy putting up oranges. Besides, at East Highlands, near by, there are five more.

The Arlington Heights Fruit Company will plant a ton of poppy and sweet pea seed on the street frontage of its great property of Arlington Heights.

The new directors of the Thermal Cantaloupe Union are: L. D. Mallory, C. W. Mexter, J. A. Gordon, Geo. M. Beach, J. W. Newman, J. H. Magaw and E. C. Gammill.

Celery growers of Southern California are pleased at the cooler weather, as the nipping frost of the lowlands has killed the fungus which was injuring the celery greatly.

The Coast

Butter is now quoted in Portland, Oregon, at twenty-five cents.

Shipping of prunes is now the leading industry in the Willamette valley.

Northern Colorado beet sugar plants are paying out over \$5,000,000 to growers.

One hundred sheep men met in annual session at the Dales, Oregon, November 12th.

Dayton, Washington, has laid off its force of apple pickers because of shortage of cars.

Sheep growers near Roseburg, Oregon, are offering \$40 per head for every coyote killed.

Apples are produced in Albany, Oregon, on a tree said to be over fifty-two years old.

There was less canning of fruit done in Oregon this year because of higher price of grain fruit.

A canal which will supply water to thirty-five thousand acres is under contract for Bend, Oregon.

The stockmen's association of Oregon is protesting and demanding more equitable grazing privileges.

Fruit growers at Montesano, Washington, are forming a protective association with a capital stock of \$4000.

The largest prune-packing plant in Oregon, at Albany, has been forced to close down on account of the financial situation.

An exhibition of Willamette valley apples made at Portland has attracted a great deal of attention and is said to be one of the finest ever made.

WON SOME PREMIUMS.

W. S. Sullivan, the Buff Orpington specialist, made the following winnings at the recent San Jose show:

1, 3 and 4 pen; 1, 2 and 3 cock; 2, 3, 4 and 5 cockerel; 1, 2, 3, 4 and 5 hen; 2, 3, 4 and 5 pullet. C. B. Carrington cup for best display of Buff Orpingtons; National S. C. B. O. Club Silver Cup for best display of breed by members, two Association and six Club Special Ribbons.

Buff Orpingtons were third largest class in numbers in the show. Mr. Sullivan's address is Agnews.

AT ELECTRICAL SHOW.

At the electrical exhibit to be held in Chicago January 13-25, will be one of exceptional interest to farmers. It is made by the Stromberg-Carlson Co. They are the telephone people who make a specialty of farmers' telephone lines, and an instructive showing will be made.

Any interested farmer who will write the firm at Chicago will secure valuable booklets on, "How to Organize," "How to Build," and other valuable information as to telephones.

Above all, any one visiting Chicago should see this great exhibit.

A face is a sensitive article. If you don't believe it, watch old Flintsoil wince when his wife twits him about that wart on his nose. It hurts him to hear his face spoken lightly of. Still in spite of this sensitiveness there are those who put laundry soap on their faces, and not content with that, take a brush and rub it in. Trouble follows of course. A man can't use a boot-jack for an eye-stone without inconvenience. Williams' Shaving Soap is the proper thing for shaving. Its use will bring comfort, health and pleasure.

"By sending a 2c stamp to the manufacturers, The J. B. Williams Co., Glastonbury, Conn., to pay postage, you can obtain a free sample."

PER 3 BUSHEL SACK **\$1.90** PER 2 BUSHEL SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by all largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledge standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Flicher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland.
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis and Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

Beef Scraps Raw Bone

GUARANTEED ANALYSIS:

Protein65%
Fat8%

Made of Cooked and Dried Livers, Lungs, Melts and Clean Scraps. No fertilizer ingredients in these Beef Scraps.

Pure, Clean Animal Matter Poultry Foods

WESTERN MEAT COMPANY SOUTH SAN FRANCISCO CALIFORNIA

GUARANTEED ANALYSIS:

Protein25%
Phosphates45%

Made of Clean Beef Bones, surplus fat removed. Cleanest Raw Bone on the Market.

FERN PARK POULTRY RANCH

EGGS FOR HATCHING

All Eggs are from good, strong vigorous stock.



WYATT & WOLLITZ, Proprietors

—Breeders of—

Single Comb Buff Orpingtons
White Rocks and
Indian Runner Ducks

Orpington and Rocks \$2 per setting; \$6 per 100.
Duck Eggs \$1.50 per 12.

Write your wants. Correspondence carefully answered.

Box 298.

WYATT & WOLLITZ, Corona, Cal.

LARGEST POULTRY SUPPLIES HOUSE IN THE UNITED STATES

See Our New Salesroom

534

So. Main Street, Los Angeles

HENRY ALBERS CO. EVERYTHING FOR POULTRY

Beef, Blood and Bone Will Make Your Hens Lay

This is not a medicine but a high grade nitrogenous food. Write for free booklet "How to make Hens Lay." Our Poultry Food is sold by all local dealers and manufactured solely by

The Pacific Guano and Fertilizer Co., Indiana and Yolo Sis., San Francisco, Cal.

Also Pioneer Manufacturers of High Grade Fertilizers.

Write for our free booklet, "Farmer's Friend." Valuable to all farmers and ranchers.

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experiences with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

ALESBURY DUCKS.

At the State Fair held at Sacramento last month, the writer saw some of the finest Alesbury ducks that it has been our privilege of seeing for a long time. We often wonder why these ducks are not more popular in this country, especially when a speciality is made of raising ducklings for market.

Economic Qualities.

For market purposes perhaps the Alesbury outranks any of the domestic breeds of ducks, for the reason of its rapid growth and early maturity. Ducklings have been produced ready for market in from seven to nine weeks of age and weighing from four to five and one-half pounds. In fact, if sold as ducklings, they should be marketed by the time they are nine weeks old, for over this age they begin to get their adult plumage.

They have a small bone, yet carry a heavy amount of creamy-white flesh which is well placed on the breast. They are good layers, often making an average of 150 eggs per duck per year, and begin laying early in the fall. They very rarely set and are not much depended upon for this purpose in England, their native land.

History.

We quote from Edward Brown's work, "Races of Domestic Poultry:"

Some of the older writers upon poultry termed this race White English, but in the early part of the last century the name Alesbury was given, doubtless due to the fact that duck breeding was extensively practiced in the vale of Alesbury, in Buckinghamshire. . . . The White Alesburys are beautiful and ornamental, matching well in color with the Embden geese. . . . Since that time the name has been universally adopted. The breed has proven one of the most valuable for early maturity, which explains its popularity, not only in this country, but elsewhere, whilst it has always had a strong clientele among exhibitors. About thirty years ago the appearances were that the race was losing both size and vigor, probably owing to the fact that nearly everyone obtained their stock birds from Buckinghamshire, and that in that country inbreeding was almost universal. Since that time the injury thus done has been overcome, for which we may thank an out-cross of Pekin blood, which has restored the virility of the Alesbury. At the same time much is owing to these birds being bred in many parts of the country, and thus the choice of stock is greatly increased. Mere change of conditions is in itself often beneficial.

Description.

In appearance the Alesbury is boat-shaped, in that the line of the body is level with the ground the legs being placed about midway between the breast and stem. One of the characteristics is the delicate color of the bill and legs, the former being pink or flesh like. It has been claimed that this delicate color can only be produced in the vale of Alesbury. However, we know that some

of the best specimens we ever saw had bills that were not of this delicate color; being of the opinion that these ducks had foreign blood in their make-up, we asked if such was the case, but were informed that such was not the case, but that even in the imported specimens the color would change. Undoubtedly, it can not be maintained on strong soils.

The standard color of the plumage of the Alesbury is pure white; bill pale flesh color, free from black or dark marks. Shanks and toes. Bright, light orange. Weight: Drake nine pounds; duck, eight pounds.

The only difference between the male and female, is that the former have two or three curled feathers in the tail.

For breeding stock it is important that the bones of the leg should be stout without being heavy. In fact, one of the great features of the Alesbury is their light bones. At the same time they must be sufficient to indicate vigor.

AROUND THE YARDS.

Start this fall with a trio or pen of thoroughbreds.

Straw or leaves serves best for the scratching shed.

Your hens should be through the molt now and started to lay.

Select the hens that lay nice, large, even-shaped eggs. They will please your customers better.

The most attractive poultry house ever designed will add nothing to your profits. What the fowls need is a house free from drafts, dry, comfortable and convenient.

Some poultrymen put poultry wetting over the dropping boards to keep the birds from scratching in the droppings; this saves work when cleaning out the houses.

The fair summer boarder was having a look over the farm.

"What are those queer looking birds?" she asked.

"Them's geese," answered the farmer.

"Oh, yes!" exclaimed the fair one. "And do they lay all the gooseberries you use?"

House for Fifty.

Please inform me through the columns of your valuable paper how large a chicken house should be built for fifty Buff Orpingtons, and the best method for ventilating same; also state how large the run should be.

Please state where I can get full information in regard to raising frogs for market.—J. H.

A house to accommodate fifty fowls, will depend somewhat upon conditions and climate. In California it is not necessary to have nearly so much room as in the Northern and Eastern States. Mr. Curtis, of Altadena, a very successful poultryman, has forty-five White Leghorns in each yard, which is 20x140 feet. His houses, which we consider large enough for the number of fowls, are 8x16 feet.

Orpingtons are larger than Leghorns, yet we believe that a house

LILLY'S BEST SCRATCH FOOD

A perfectly balanced mixed grain feed strengthened with beef scraps, granulated bone, charcoal, grit and shell. It is rich in all the elements necessary to make hens lay and feathers grow. Practical poultrymen praise it highly.

"My chicks never laid more eggs than when I fed them Lilly's Best Scratch Food." J. F. JURGENSEN, San Jose, Cal.
"I never had such a wholesale production of eggs as I have since feeding your Scratch Food." J. W. DAKON, Burlington, Wn.
"I am getting more than one-third more eggs since using your Scratch Food." F. A. SMITH, Sedro-Woolley, Wn.
"My hens are laying lots more eggs since using Lilly's Best Scratch Food." L. FERRIS, Everett, Wn.

SOLD BY DEALERS
Insist on **LILLY'S**

Imported Aylesbury Ducks

Winners at Crystal Palace and leading shows in England. Also at the State Fair, San Jose and Oakland, 1906. Also State Fair and San Jose, 1907. Stock for sale and Eggs in season.

Vincent G. Huntley

Petaluma, California

Also Breeder of Buff and Black Orpingtons and Barred Plymouth Rocks.

Do You want the Breed That Lays

the year around and brings \$1.00 each when sold to market? Our **BUFF ORPINGTONS** are that kind. Write for show record never equalled on the Pacific Coast, Catalogue, and prices.

Mr. and Mrs. W. S. Sullivan

Agnew, Santa Clara Co., Cal.

State V. P. Nat. S. C. B. O. Club.

Spargur's Trap-Nested White Leghorns

Laying Pullets six and seven months old from above hens, at \$15.00 per dozen. Also I. R. Ducks and Drakes at \$9.00 per dozen.

H. G. Spargur, Soquel, Cal.

Newbert's White Leghorns

Are the best in the State. I proved it at the last State Fair, winning four of the five firsts from the best breeders in the State. Ha ching Eggs, \$6 per hundred, \$1.50 and \$2.00 per setting.

F. M. Newbert

Palmetto Heights
Sacramento, Cal

BARRED ROCKS

EXCLUSIVELY

Send for Sixteen-Page 1906 Catalogue

H. R. CAMPBELL

BOX O PETALUMA, CAL.

Baldwin's White Leghorns

First prizes San Jose '06, and State Fair '07
Three First Prizes San Jose, '07

Free catalogue of heavy layers and finer list of eggs for hatching on application.

Frank E. Baldwin

46 Washington Ave. - San Jose, Cal.



Black Minorcas Exclusively

Show Record at Los Angeles, January, 1907, 5 first prizes, 4 Seconds, 4 thirds, 3 fourths, 3 fifths. Also two Silver Cups. They will make money for you. Stock and eggs for sale. Catalogue free.

H. A. Wheeler
Box 123, Lordsburg, Cal.

Successors to Perham & Wheeler

WHITE AND BUFF WYANDOTTES

And Golden Sebright Bantams, prize winners
Stock and Eggs in season
M. E. Dillingham, Box 67 San Gabriel, Cal.

WHITE WYANDOTTES EXCLUSIVELY

Good, White, Typical Birds. Stock and Eggs For Sale.

W. A. SEYMOUR

470 No. Baudry Ave. Los Angeles, Cal.

8x16 feet is large enough for fifty Orpingtons.

The best method of ventilating in this county is an open front house, with a burlap curtain to let down on rainy nights. Many are using this style of house with good success.

We do not know where you can get the information you desire in regard to raising frogs.

RAISING THOROUGHbred POULTRY.

The following essay is one which was entered for competition in the prize contest inaugurated by the Iron Mountain Poultry Train and contains much of interest:

One of the most important industries in which the American people of today are concerned is one which is being mostly sadly neglected, one which, if given the careful attention it justly deserves, could be made the most profitable as well. I say neglected, because it does not receive the diligent care it should; and profitable, because it brings the greatest amount of income on the amount of capital invested. This industry, as you perhaps have already divined, is the raising of thoroughbred poultry.

I deem it hardly necessary here to say that this class of stock deserves more attention than the farmers generally give it. There are, indeed, few farm yards untenanted by fowls of some kind, and few homesteads without a poultry house. It is rare, however, to meet with an instance where the breeding and management of poultry is conducted with the care and intelligence so frequently bestowed on other kinds of live stock.

Now, if poultry is kept at all, whether for pleasure or profit, it is surely worth while to use rational means for securing the object in view. To have good poultry it is necessary to provide a dry, warm, well-ventilated house for them. Cleanliness and freedom from moisture must be secured if the greatest success is to be attained. Constant and careful attention is absolutely indispensable. It is a lamentable fact that a great many of the farmers permit their poultry to roost in trees or any place else it suits them, and then insist that poultry raising is not profitable. It never seems to enter their minds that if poultry is to be made profitable it must be housed properly, fed properly and attention be given to their wants—the three great stepping stones which lead to success.

To obtain the best results in this enterprise I would urge poultry raisers to select a standard breed of a recognized strain and breed them exclusively. Make a speciality of this one breed, then give all your time and surplus money to the raising of the best of this breed. What could be more pleasing to the eye than a flock of chickens of one breed? Uniform in color, all of a size and all of one pure breed. Aside from their beauty, they are the most profitable as well. The market and poultry dealer will always give a few cents more per pound for a coop of uniform poultry where their dressing qualities are about equal. I am sure a coop containing one breed will always attract the eye of the buyer.

Another great aid in making this industry pay—in fact, the cardinal principle in profitable poultry raising—is extensive advertising, for without it, anything in the way of pre-eminence cannot be established. You must let the people know what you have, and an excellent means of

50 Cent Eggs

You may feed grains alone until doomsday and you will never get many of them. You must supplement grains with some highly nitrogenous food, rich in protein, to keep the hen in good health, build up her system and furnish her with the material for making eggs.

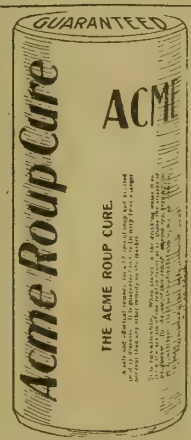
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is just this and nothing else. It is not a strong tonic and stimulant, but contains enough condiments to give the food relish and keep the fowls in fine fettle. Just a little fed daily with good grains, or even with bran will do it. It can be fed either dry or as a mash. The hens like it, they eat it, there is no waste. It makes the very cheapest Egg Food, especially if you can buy your grains at home cheaper than to ship them in. The cost is but a very small per cent of the increased egg production. 4-lb. package, 35 cents; 25-lb. pall, \$2.00; 50-lb. sack, \$3.75. If your dealer doesn't keep it, we will deliver a pall or sack freight prepaid by us.

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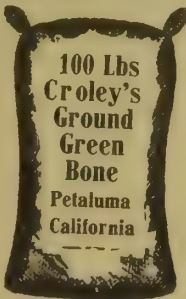
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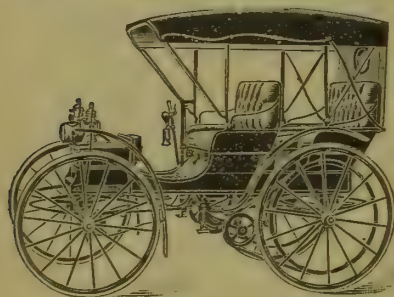


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Poultry Show Dates

Oakland, Cal., Dec. 2-8, 1907. —Fourth Annual Exhibition of the Alameda County Poultry Association. C. G. Hinds, secretary, Alameda, Cal.

Los Angeles, Cal., Dec. 5 to 14, 1907. —Southwestern Pigeon Club will hold its annual exhibition with the Los Angeles County Association. W. E. Foster, secretary, Fillmore, Cal.

Los Angeles, Cal., December 5-14, 1907. —The Nineteenth Annual Poultry and Pigeon Show of the Los Angeles County Poultry Association Corporation. Comparison judging W. L. Sly, Hollywood, president; C. D. Hubbard, secretary, San Fernando.

Fresno, Cal., Dec. 11-14, 1907. —Tenth Annual Exhibition Fresno Poultry, Pigeon and Pet Stock Association. George R. Andrews, secretary, Fresno, Cal.

San Diego, Cal., Dec. 17-21, 1907. —Sixth Annual Poultry and Pigeon Show of the San Diego County Poultry Association. George I. Badger, secretary, San Diego, Cal.

Los Angeles, at Chutes Park, Jan. 6-12, 1908. —Second Annual Exhibition Breeders' Association of Southern California. Dr. Winslow, president; H. A. Meserve, secretary. Birds will be received January 1st. Judged by score card and awards read before public is admitted Monday, January 6th.

accomplishing this is through the columns of good poultry journals and farm papers.

Poultry breeding is rapidly becoming a science, an art (if it is not already,) which is beginning to command the respect of the cultured and refined in all walks of life. The day for hap-hazard breeding is fast passing and should be. Now is the time to begin the reformation if you have been careless with your fowls. There has been a great awakening along this line.

The Missouri Pacific Railway Poultry Exhibit Train, which recently visited this city, created quite an interest, and the farmers are taking up the raising of thoroughbreds with renewed energy and zeal. May the day speedily come when thoroughbreds may be found in every farm yard, and then, and not until then, will the farmers be awakened to a due appreciation of the wonderful possibilities now neglected; not until then will this important enterprise have received the consideration it so justly merits.—Rural World.

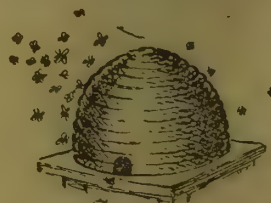
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These depend a great deal on the amount of animal food the stock birds obtain. Just now there is nothing better than fresh cut bone in this line. Eight pounds of it will feed thirty-six fowls for a week and is all the animal food they need, so that a quarter of a dollar spent in this way will repay itself time and again in the extra eggs produced. Not only this, but such eggs will be the best possible for hatching purposes.—American Poultry Advocate.



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General Agriculture

MAKING VINEGAR.

VINEGAR is made from a number of different products. The best quality is made from fruit juices; cheaper grades are made from the malt, grains and sugar refinery wastes and other sources. The cheaper kinds are often colored and otherwise "doctored" and then sold as cider vinegar. In order to prevent this fraudulent practice a number of States have passed laws establishing certain standards for vinegar. These laws are not entirely uniform. The minimum legal amount of acetic acid for cider vinegar is placed at four per cent in some States, in others four and one-half per cent and still others five per cent. The total solids likewise required vary in different States from one and one-half to two per cent.

Changes in Vinegar Production.

There are two important changes which take place in the conversion of fruit juice into vinegar. First, the sugar in the juice is converted into alcohol, and secondly, the alcohol is converted into acetic acid. In these transformations 100 parts of sugar in the juice should produce theoretically about 51 parts of alcohol; that is, one should obtain about half as much alcohol by weight as there was sugar in the juice. In practice, only from 45 to 47 per cent is actually obtained. In the conversion of alcohol into acetic acid 100 parts of alcohol should yield theoretically 130 parts of acetic acid, but less than 120 parts are actually obtained. Starting, therefore, with 100 parts of sugar in the fresh apple juice, under favorable conditions we should obtain from 50 to 55 parts of acetic acid. To make vinegar, therefore, which shall contain five per cent of acetic acid it will be necessary to have fruit juices containing at least ten per cent of sugar. For four and one-half per cent vinegar, apple juice analyzing at least eight and one-half per cent of sugar will be necessary.

Acetic Fermentation.

After alcoholic fermentation is completed another group of micro-organisms attack the alcohol and convert it into acetic acid. The acet-

ic fermentation takes place much more slowly than the alcoholic, requiring 18 months to two or three years before all the alcohol is changed into acetic acid when the cider is kept in ordinary cellar storage. The most satisfactory results at the New York State Station at of acetic fermentation were obtained temperature of 65 to 76 degrees F. When the micro-organisms causing acetic-acid fermentation were introduced into the cider at that station in the form of vinegar or "mother" after the alcoholic fermentation had been completed, the conversion of the cider into vinegar was much more rapid than where no addition of vinegar was made.

In a cool cellar, cider that had thus been inoculated by the addition of cider vinegar or "mother" reached marketable condition a year sooner than where the vinegar was not added. Vinegar should never be added to cider that has not completed its alcoholic fermentations, since the presence of the acetic-acid greatly retards alcoholic fermentation. On this point Browne, of the Pennsylvania Station, states as follows:

"Many farmers and vinegar manufacturers make a foolish practice of adding fresh apple juice to old vinegar stock in the hope of thus securing a more rapid conversion of the product into vinegar and then complain that their vinegar 'won't make.' The sugar of the juice must first undergo the alcoholic fermentation before the acetic fermentation can begin, and by adding apple juice to old vinegar the alcoholic fermentation may not only be checked, but even absolutely prevented."

The organisms causing acetic fermentation require abundance of air in order to do their best work. The practice, therefore, of inserting an empty bottle in the bung hole of a barrel intended for vinegar is useless and injurious, as it prevents the free entrance of air, (which is necessary for the growth of the acetic micro-organism). After acetic fermentation is completed the organisms are no longer needed. Barrels containing vinegar should then be filled full and tightly bunged, otherwise these

organisms or others of a like nature may attack and destroy the acetic acid already formed, rendering the vinegar weaker or entirely worthless. At the New York Station some of the uncorked vinegar finally actually became alkaline.

Suggestions for Making Vinegar.

The foregoing facts relative to the alcoholic and acetic fermentation lead to the following practical suggestions on vinegar making: Use only ripe, sound fruit. If the fruit is dirty, it should be washed, otherwise there is danger of introducing micro-organisms into the juice that will interfere with normal alcoholic and acetic fermentation. For the same reason cleanliness should also be observed in grinding and pressing the fruit and in the handling of the juice.

When possible, the pressed juice should be placed in some large receptacle and allowed to stand for a few days before putting into barrels.

In this way considerable solid matter held in suspension will settle before the liquid is placed in casks. The casks should be well cleaned, thoroughly treated with live steam of boiling water, and should not be over two-thirds or three-fourths filled with apple juice. The bung should be left out, but a loose plug of cotton may be placed in the hole to decrease evaporation and prevent dirt falling in. The bung should be left out until four and five-tenths to five per cent of acetic acid has formed.

When fresh cider is placed in barrels and stored in ordinary cellars, alcoholic fermentation is not completed until the end of about six months. With a cellar temperature of 60 to 70 degrees F. this item can be considerably reduced. If yeast is added to the fresh cider, fermentation can be compelled in three months or less. If compressed yeast is used about one cake to each five gallons of juice should be used after first thoroughly softening the yeast with lukewarm water.

When the acetic fermentation has gone far enough to produce four and five-tenths to five per per cent of acetic acid, then the barrels should be made as full as possible and tightly corked in order to prevent destructive fermentation of acetic acid and consequent deterioration of the vinegar.

Vinegar From Prunes.

Vinegar was made at the Oregon Station from undersized and otherwise unsalable prunes. The prunes were first washed and then run through a homemade machine with spike rollers, which lacerated and tore them. The pulpy mass was then inoculated with a pure culture of yeast (*Saccharomyces cerevisiae*.) This caused a strong and rapid fermentation, which broke down the cell walls of the prunes, thus liberating the clear juice, which flowed into a receptacle below the vat. This method of securing the clear liquid was inexpensive and very satisfactory. A little more than three gallons of juice was secured per bushel of fruit. The juice was fermented in open barrels. Fermentation was completed in ten days, when the juice was found to contain ten per cent of alcohol. It was then inoculated with a pure culture of vinegar ferment (*Bacillus pasteurianus*) by floating it on the surface of the liquid by means of pieces of cork weighted so as to bring the culture in contact with the liquid.

The vinegar thus produced was of excellent quality, with a fruity flavor and good body, and contained 6.89 per cent of acetic acid. The only objection to it was its color, which was that of very dark wine. It was, however, but little darker than imported malt vinegars, which find ready sale in Oregon markets. But the use of yeast for the alcoholic fermentation and the addition of vinegar "starter" after the acetic-acid fermentation, pear vinegar containing 8.89 per cent acetic acid and apple vinegar containing six per cent have been made at the station within four months from the time the fruit was pressed.

The barrels must be free from must and mold, the depth of the liquid should not exceed the surface measures, free air must be continually admitted, an even, warm temperature should be maintained and, last, but not least, the fruit that is used should be free from decay and mold. —Portland Oregonian.

City Friend.—Do you keep a cow?

Mr. Outlotz (of Drearyhurst)—I have a strong suspicion that I do. What I have to pay my milkman every week certainly ought to keep two or three cows.—Chicago Tri-

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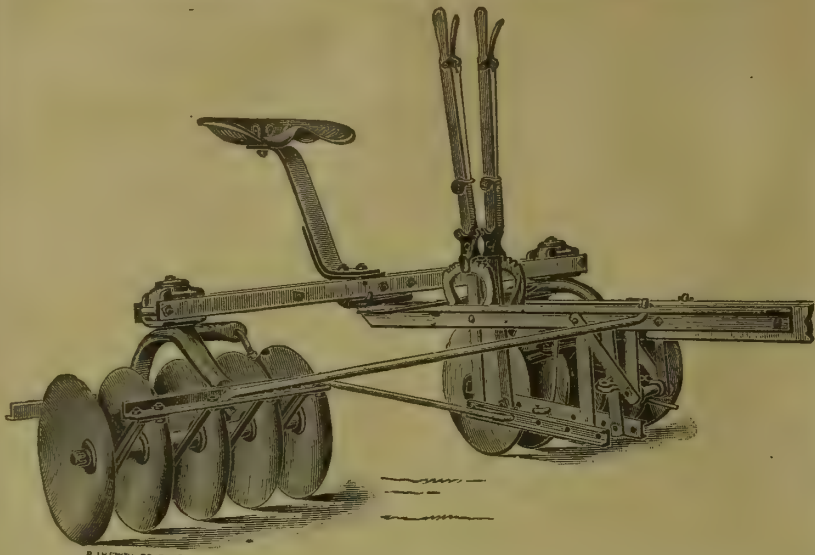
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Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Roselle.

Several queries have come regarding the interesting plant roselle, hibiscus or jelly plant, which should have far wider cultivation in California. One wishes to know how to sow the seed, when to pick for jelly, etc.

The seed is being destroyed this year by mildew. Plants in the garden of the writer were practically destroyed before noticed by the mildew, during the October rains. They should have been sprayed with the formula recommended in the Cultivator last week, page 499, or possibly with Bordeaux. To save the seed when the mildew has not destroyed the pods, allow to ripen till seeds are hard and black, then pick pod and all, or let the seed rattle out in a cup.

In the ten years which the writer has grown it, this is the first it has been destroyed by the mildew. So between the early cutworms and late mildew no seed will be saved.

To make jelly, cut before the seeds are ripe; cut pods in two; place all in kettle; nearly cover with water; boil, strain juice; boil, add sugar and treat as for any other jelly; place in cups. For sauce, use calyx only; add sugar and treat as any other fruit.

Possibly Grubs.

I have a two-year-old Jersey heifer which will be fresh in six or eight weeks. She has coughed some the past week or two and small bunches have come up along her back about as large as walnuts, and one at the point of shoulders as large as the palm of ones hand. They seem to be quite sore. They resemble grub bunches.—C. J. S.

Cut into one of the lumps and see if it is grubs. These are treated by enlarging the breathing opening with a wooden splinter and putting on the grub with a medicine dropper, a couple of drops of kerosene oil, or carbolic acid or of turpentine. If these prove to be merely grubs then the cough may be dismissed as a cold. Cover her with a blanket at night and see that she is not out in the wet. Pneumonia is one of the fatal cow diseases of California. If the bunches are not grubs, then after she freshens have her tuberculin tested. If she re-acts dry her off and fatten for beef before the disease progresses further.—M. E. S.

Bordeaux.

Is this a good time to spray peach trees and prune them? Give Bordeaux mixture? Is this a good time to spray for curl leaf?—A. M. M., Redlands.

For blight this is the time. See last issue. For curl leaf wait till nearly time to leaf out in the spring. The 5-5:50 is the usual Bordeaux mixture. Five pounds of sulphate of copper; five pounds of lime; 50 gallons of water. Slake lime and dissolve copper separately. Strain and pour together into the water. Do not pour one into the other, but pour simultaneously into the larger vessel, stirring constantly.

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Eating the Fence.

What causes horses to gnaw fer boards, or rather, eat them up? What is the remedy? Would lime or sheep dip placed upon the fence keep them from the habit?—E. F. Modesto.

The trouble seems to be caused constant green feed. It is common in horses and colts on pasture. As is a natural craving, we indulge it, hauling into the fields or corrals few wagon loads of brush from the fruit trees and vines. Not having these, try common willow brush, the small limbs rather than heavy wood. On the fence they are now troubling cover the boards with crude oil, that having the asphaltum base, the best thing we have found. Lin washes they like even better than the plain boards.

Coal Ashes.

I would like to ask whether coal ashes would be beneficial or harmful to a lemon orchard; also ash from pine wood?—C. L. G., San Diego.

The coal ashes would not be harmful on most soils. If of heavy compact nature, they would be beneficial in putting the soil in better mechanical condition. Without any question wood ashes of any kind are beneficial.

Mushroom Culture.

Will you kindly inform me how to make beds for raising mushrooms? are there different varieties; if so, what are they?—Subscriber.

There are different varieties, all of which are named and instructions given as to culture, in a bulletin issued by the Department of Agriculture, Washington, D. C. It can be had for the asking.

Keeping Cider.

How can I keep cider. Have tried boiling and cooking, but it will ferment and spoil.—M.

To preserve flavor it should not be boiled. Full instructions were in the Cultivator a few weeks since.

Heat to 165 degrees; allow to stand a few days in glass to settle. Rack off, heat again, keeping at 165 or 170 for a half hour; bottle and seal as you would canned fruit.

Ripe Sorghum.

Will you please tell me through the Cultivator, if I can safely feed ripe sorghum, (well seeded) to a cow?—Subscriber, Turlock.

Certainly, if you begin a little at a time and gradually come up to full feeds. I have fed it for roughage for whole winters at a time.—M. E. S.

Dactylis—Olive Oil.

Enclosed you will please find some seeds and blades of grass. Kindly let me know what kind it is, if possible, as it seems to be very hardy and I would like to buy some of the seed and give it a trial here. Also what is the recipe for making olive oil?—A Subscriber.

This grass was submitted to Dr. A. Davidson who names the grass Dactylis glomerata, or orchard grass, or sometimes cock's foot.

Bailey's Cyclopedia says of it



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For the Festal Thanksgiving Day

The coming of Thanksgiving always brings with it the memories of the many family reunions and the enjoyable dinners. This is the one day of the year that the dining-room should be at its best.

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1907

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Also please credit my subscription account three months for each new name above.

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"One of the best known and most useful of grasses. Useful for lawns under trees." That is under Eastern conditions. Here it is of no great value.

The manufacture of olive oil would require so extensive a description that it would be impossible to give comprehensive instructions in this department. To get a general idea, a mill where it is manufactured should be visited. And if its manufacture is to be attempted its process should be mastered, for it is a delicate product and requires experience. In a word, it consists of crushing pressing, placing in receptacle to settle after which it's "racked off." Later it is filtered, clarified and placed in cans, all of which requires several months.

Plants on Overflowed Land.

Can you tell me through your paper if there are any trees or grasses

that will grow on low land that is partially covered with water during the wet season? You will say first, drain the land, etc., but this cannot be done. I have three-fourths of an acre on the front part of my place, which is little less than an eyesore, and I would like to cover it up with some trees or shrubbery, even if I received no benefit from it. The land is light and mellow and much resembles an ash heap and is covered in the spring and early summer with foxtail grass.—E. R. J.

This was submitted to Mr. Neff, who says that all that occurs to him is rushes, papyrus or tules or willows.

Will any subscriber who has experience give us a list of plants which will do well under these conditions.

HERE COMES THE DOLLAR.

The Cultivator has been coming to me for some time and I do not see how I can get along without it, so here comes your dollar.—P. F. Nice, Brawley.

The Fruit Growers Meet

Next Tuesday State Horticultural Commissioner Jeffrey will call to order the Thirty-third California Fruit Growers' Convention.

This will be the first under the new commissioner and will be the occasion of many meeting Mr. Jeffrey for the first time.

It goes without saying that John Isaac, who has been the efficient secretary for so many years will also be at the secretary's desk. The program, which is just received, is as follows:

Tuesday morning, December 3, the gavel will fall at 9:30, when, after the usual invocation, welcome by Mayor Hall of Marysville, with addresses by Governor Gillett, Commissioner Jeffrey. Edward Berwick will speak on Parcels Post and Prof. Clarke on University Extension.

Tuesday afternoon there will be: Apple Growing in the Willamette Valley, M. O. Lownsdale; Pear Growing in California Under Present Conditions, Prof. R. E. Smith; Pear Blight and Its Control, Howard Reed; California Orchard Diseases, Prof. M. B. Waite; Smyrna Fig for Profit in the Interior Valleys, Geo. C. Roeding; The Fig in the Sacramento Valley, W. Herbert Samson. Tuesday evening the Woman's Civic Improvement Clubs of Marysville and of Yuba City will tender a reception.

Wednesday morning will be devoted to fruit-growers and labor, as follows: Fine Art of Breeding, David Starr Jordan; Labor in the Rural Industries of California, John P. Irish; The Pacific Coast Labor Question from the Standpoint of a Horticulturist, G. H. Hecks; Discrimination Between City and Country in Taxation, A. N. Judd; The College and the People, Prof. Leroy Anderson.

Wednesday afternoon Transportation and Marketing will hold the boards.

R. D. Stephens of Transportation Committee will report; Report of Fruit Distributors by Alden Anderson; Report of Committee on Prunes, J. L. Bowers; Common Interests of Fruit Growers, Paul Shoup; Marketing Citrus Fruits, B. A. Woodford; Canadian Northwest as a Market, F. W. Cranfall.

Thursday morning, Entomological session.

Something we need, Prof. Vernon L. Kellogg; Practical Work in Combating the White Fly, E. K. Carnes; Present Status of Parasitism, E. M.

Ehrhorn; Fumigation and Scale Insects, Los Angeles Inspectors; What the Fruit Growers Expect from the Nurserymen, H. P. Stabler.

Thursday afternoon, Excursion over electric lines of the Northern Electric Company.

Thursday evening, "Value of 'Cover Crops,'" James Mills.

Friday morning, Horticultural Promotion.

Electric Roads for Developing Fruit Growing, H. A. Butters; Importance of the Careful Handling of Fruit, J. H. Reed; The National Farmers' Congress and Its Work, J. A. Filcher; Improvement of Inland Waterways, A. R. Sprague; Commercial Value of Ornamental Trees, C. B. Messenger; Nut Cultivation in California, Leonard Coates; Relation Between Fruit Growers and Canners, Isidor Jacobs.

The closing session on Friday will be on Viticulture.

Report of Committee on Roads, A. R. Sprague; The Reciprocal Influence of Stock and Scion in Grafted Vines, Prof. Frederic T. Bioletti; Progress of Viticultural Work in California, Prof. Geo. C. Husmann; Grapes, Mrs. M. E. Sherman; Interdependence of the Pacific Coast, Dr. Clarence E. Edwards; Beets and Sugar in California, J. A. Hamilton.

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You can quickly heat and keep cozy the draughty hall or cold room—no matter what the weather conditions are—and if you only knew how much real comfort you can have from a

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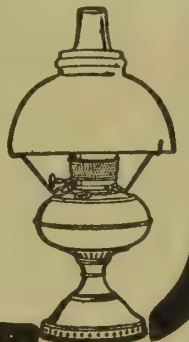
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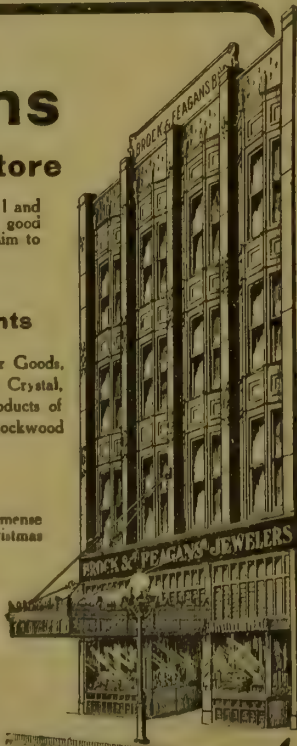
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On the vine,
Green hills lookin'
Mighty fine.
Violets peepin'
Up at you
From their dew-drenched
Beds of blue.
Ain't a thing that's
Out o' gear,—
Fine ol' country
We got here.

Fine ol' country
We got here;
Gettin' better
Every year.
Eastern folks all
Read about
Our grand climate,
Then come out;
Come out here an'
Look around;
Swear that Par-
Adise is found,
An' that heaven
Seems right near,—
Fine ol' country
We got here.

Fine ol' country—
Best of all
On this ol' ter-
Restrial ball.
Blossom-spangled,
Bloom-embowered,
Sun-kissed, balmy,
Gayly flowered.
Mountains decked
In nature's green;
Grandest climate
Ever seen.
That folks love it
Isn't it queer,—
Fine ol' country
We got here!

—Sunset Magazine.

THE PEARL NECKLACE.

IT WAS about half past four in the afternoon, of a cold and crisp December day, when a large automobile stopped in front of one of the most famous jewelry establishments in Rue de la Paix. A distinguished looking gentleman, wearing a costly fur-lined coat, evidently about 60 or 65 years old, alighted and entered the shop.

The proprietor immediately thought him a customer of enough importance to wait on him himself, and the gentleman did not waste much time in getting down to business.

"Now the thing is this," he said, "I have a niece of whom I am very fond, and who is going to be married in a few days. I should like to give her a valuable present. Please show me some pearl necklaces, but I do not want any of the ordinary affairs, though it is, of course, rather superfluous to tell you that, as I know you do not carry any such things in stock."

He said this with a smile, and the jeweler bows, greatly flattered.

"You understand, then," the customer continues, "I want the most beautiful necklace you have. I do not know exactly what such a thing costs, but if you have something that pleases me I am willing to spend, say about 200,000 francs."

The jeweler opened his eyes wide—it is not every day that he has a chance to sell necklaces for 10,000 Louisd'ors.

Leaving his customer alone for a minute, he returns with a half dozen boxes, which he places in front of him on the cloth covered table.

The customer examines all the necklaces carefully. Then he asks about the prices, which are all in

the neighborhood of the amount mentioned by him. He stands undecided for a moment, and then says:

"I am very sorry, I can't decide immediately, at least not alone. My niece knows that I am going to give her some jewelry, and I want her to select the present herself. Now, we might do this: I know that I shall take one of these two necklaces, but not which one. Would you be kind enough to wrap them up and come along with me? I am Count Montepin and I am at the present living on my estate on Boulogne-Seine. We can be there in about 20 minutes. Then my niece, who is living with me, can select the necklace she wants, I will pay you and you may take the other one back. Of course, you can go with me in my auto, and altogether the whole thing will not take more than an hour."

The jeweler hesitates for a moment, and then agrees to do as asked. And a minute afterward they whisked off in the auto.

About 20 minutes later the car stops in front of a large iron gate. A footman in livery comes rushing out, opens the door of the auto and conducts the two gentlemen into a large reception room. The count hands him his overcoat and hat, whispers something in his ear and takes the jeweler into an elegant sitting room.

"Would you kindly give me the two for a moment? I will then take them to my niece's room and will be back in five minutes."

The jeweler hesitates. He is suspicious, and not without reason. He remembers several cases when he has been swindled himself, and also others which have happened to his colleagues. But the surroundings reassure him. The furniture in the sitting room represents a value of at least 50,000 francs. The house is large, and it is evident that there are a number of servants. He gives the count the two cases, the one containing a necklace worth 175,000 francs, and the other one 10,000 francs more.


"I thank you," the count says, and leaves the room. The jeweler looks around and admires the costly Persian carpets, a large portrait by Bonnat, an excellent aquarel by Devanberg, a number of statues in bronzes and marble, and costly bric-a-brac of all kinds. He tells himself that his first estimate of the value of the furnishings is too low, and that they are at least worth 100,000 francs. He sits down again, and after a while he looks at his watch; it is just 15 minutes since the count left him.

Five minutes more passed; he began to grow nervous. Then 10 minutes passed; and he is really worried. He opens the door and sees the footman standing outside, and asks him if he thinks he will have to wait much longer.

"Certainly not," the footman replies; "my master must be here in a minute. If you will only have patience a moment I am sure he will be down."

The jeweler returns to the sitting room and walks up and down the floor rather excitedly. Five minutes passes, 10 minutes, 15 minutes, half an hour. Then he can stand it no longer, and he goes out again and asks the servant, who replies: "I am sure, if you only have patience a few minutes longer—"

"Patience! Patience! It seems



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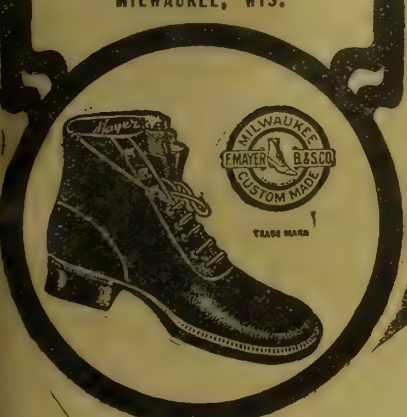
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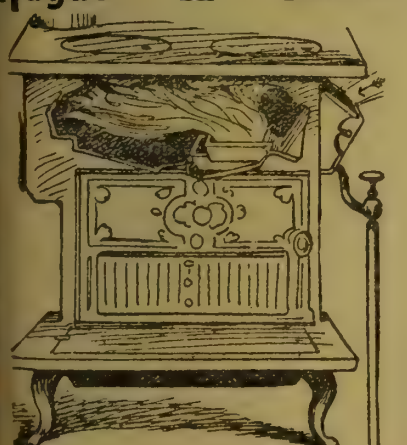
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to me that I have been waiting long enough. It is now more than three-quarters of an hour since the count went upstairs, and he said he would be back in five minutes. I gave him some very valuable jewelry, very valuable."

He is greatly excited now and talks loud. Just then the door opens, and an elderly gentleman came in, and asks him to sit down.

"Really, my dear sir," he says softly, "you must not get excited. Remember the condition you are in."

"But it is quite natural that I should be excited, under the circumstances. The gentleman with whom I came here has taken—"

"Yes, yes, I know. He has taken your pearl necklace; but just try to be calm. You will certainly get them back, and it is absolutely necessary that you do not get excited."

"What do you mean? I have nothing to do with you. I do not know you at all."

"Now, really, you must try to calm yourself or you shall again have a headache."

"Headache! What the devil do you mean? Give me back my necklace or—"

He raises his hand as if to hit the old gentleman, who does not seem the least scared, but presses a bell button.

Four servants come rushing in and take hold of the jeweler, who is now thoroughly aroused, struggles to free himself while calling them all sorts of names.

The men do not reply, but hold him as if in a grip of iron.

Seeing that it's impossible to free himself he makes an effort to appear calm and his voice trembles only a little as he says to the old gentleman, whose eyes have been resting on him all the time: "If you are not a swindler, like the other, I want to tell you that I am the victim of an unheard-of—this Count Montepin, as he said he was, came to my shop about an hour ago and selected two necklaces of great value."

"My dear sir," the other interferences.

"You do not believe me? Please tell your servants to release me just for a moment. In my pocketbook I have my cards and several letters addressed to me. My name is Michael Zabriskie, and I am the jeweler who owns the large establishment at No. 10 in Rue de la Paix. I give you my word of honor that this is so and it would be very easy for you to find out whether I speak the truth or not. Telephone to Paris, call up my establishment and find out if it is not true that the count came into the store and asked me to go with him to his estate that he might show the jewelry to his niece."

His voice is now so calm and convincing that the old gentleman looks at him in surprise and orders the four servants to let him have the use of his hands. Then he goes outside to telephone, when he returns again he is pale with excitement, orders the servants to leave the room, approaches the jeweler with outstretched hands.

"My dear sir," he says, "I cannot tell you how miserable I feel. Without knowing it, I have been acting as the accomplice of a clever swindler and I am quite certain that you will never see your necklaces. It is the most daring affair I ever heard of. You are at present in a private insane asylum belonging to me. I am Professor Plancon. The so-called count came to me some days ago and

told me that he had a brother-in-law, owner of a large jewelry store, who had formerly been exceedingly wealthy, but who had been very unsuccessful in business of late. This had affected him so much that he had lost his mind. At the present time he was suffering from the delusion that somebody had stolen some pearl necklaces from him and it was to be feared that he might become violently insane at any moment. I am going to bring him to this place under some false pretense, he said to me, and you will do everything in your power to cure him. For the sake of my sister and the children I hope that he will be able to leave this place again, cured, in a few months. As to the cost, it does not matter. Our family is very wealthy and will pay any price and with these words the count produced a wallet filled with large bills and paid me 5000 francs in advance."

The jeweler has never recovered the necklaces since.

—Spokesman Review.

RECIPES.

Ginger Bread.

My favorite recipe for gingerbread has not the advantage of being inexpensive, but it is delicious. Melt one-third of a cup of butter in two-thirds of a cup of boiling water, and add one cup of molasses, and one egg well beaten. Mix and sift two and three-fourths cups of pastry flour (once sifted,) one and one-half teaspoons of soda, one-half teaspoon of salt and two teaspoons of ginger. Add to first mixture, beat thoroughly, turn into a buttered and floured shallow pan, and bake in a moderate oven over thirty minutes. Vary the flavor sometimes by using one teaspoon each of ginger and cinnamon and one-fourth of a teaspoon of cloves; then bake in buttered and floured individual tins.—October Woman's Home Companion.

Cheesed Tomatoes.

Cut stem end from well-shaped tomatoes and scoop out the heart of each. To two tablespoons of tomato pulp, add one teaspoon of bread crumbs and one teaspoon of crumbled cheese. Season to taste and fill tomato shells with the mixture. Replace stem ends, bake in roasting pan for twenty minutes, transfer to hot platter and serve.

Scalloped Salmon.

Take one can of salmon picked up finely, butter a pudding dish and put a layer of cracker crumbs on the bottom; then a layer of salmon with bits of butter, salt, pepper, a trifle of tomato, fresh or canned, and a little milk. Proceed in this manner until the dish is full, having the buttered crumbs on the top. Add milk to make quit moist, and bake one-half hour in quick oven. This makes a simple and tasty dish for supper.

Miss Knowsitt—Now that I've graduated from the seminary, I think I'll take a course in psychology.

Mr. Knowsitt—Not on your life. You'll take a course in roastology, boilology, sweepology and domestic workology.—Pittsburg Dispatch.

Old Party—Boy, you'll catch cold if you get your feet wet in that puddle.

Small Boy—Dat's what I'm after I'm a-goin' to speak "Spartacus to the Gladiators" at school on Friday, an' I wants to git me voice hoarse.—Chicago News.

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equipments can be bought at reasonable prices. Our directions are so plain and simple that you can put up the line with little effort. Over one million Stromberg-Carlson telephones are in use today. Write today for telephone book "How the Telephone Helps the Farmer," 25th edition and other literature, sent free.

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GET INTO THE CHICKEN BUSINESS. I have a job for you. Earns \$45 to \$50 per month; takes half your time. \$750 required. Write **BOX 120**, Lordsburg, Cal.

BOOKS.

FREE—"THE POULTRY MANUAL," BY those high authorities, F. L. Sewell and Ida E. Tilson, profusely illustrated. Send us the names of twelve persons keeping any poultry and we will send it to you absolutely free and postage prepaid. **WEST COAST STOCK FOOD CO.**, 818 San Fernando St., Los Angeles, Cal.

GOATS.

FOR SALE—MILK GOATS AND ANGORA goats. Write for prices. **JOSEPH ZAL-KOVSKY**, Pala Verde, California.

DUCKS.

INDIAN RUNNER DUCKS—A FEW FINE breeders for sale now laying; extra drakes. Eggs, \$1.00 per 13. Black Langshans, young stock for sale. **CLYDE J. MOSS**, Corona, Riverside Co., Cal.

**Your
Eastern
Trip**



May be arranged so that
you may travel by way of
New Orleans

and the Sunset Route
San Francisco
and the Ogden Route
Portland
and the Shasta Route

Enjoying the balmy air of
the South or the cool and
bracing air of the North.
Personally conducted excursions
every day from Los Angeles via
all routes without change to principal
eastern points.

City Ticket Office:
600 S. Spring St., cor. Sixth
Southern Pacific

The Produce Markets

LOS ANGELES, Nov. 26, 1907.

Butter.

Butter conditions remain much the same as last week. Quotations are exactly the same. Receipts normal.

Creamery extra per roll... 67½
Firsts... 65
Seconds... 60
Dairy... 45
Cooking... 45
Eastern... 60
"Butterine"... 15@22½

Cheese.

Cheese has advanced slightly in some grades and is now quoted higher for California Young America. Anchor is slightly lower.

Cal Young America per lb... 20½
Hand... 20½
California Anchor... 20
Northern fresh... 18
Eastern singles... 19
Imported Swiss... 32
Tulare flats... 18½
Domestic Swiss... 22@23
Oregon... 18

Eggs and Poultry.

The egg market is hardly as strong and some sales are made below quotations.

Eggs local candled... 45@47
Eggs case count... 41@42
Fresh Eastern... 36@40
Eastern storage... 23@26

The poultry market is decidedly interesting. Wholesale price of dressed turkeys will approach 30 cents. Fairly good live stock quickly commands above 20 cents. Ducks and geese are very scarce. A dealer who has any of them can obtain almost any price he desires. At present 20 cents is being paid to the jobber, and in some instances even more. An additional 5 cents is put on them by the retailer, and thus they are almost as expensive as the Bird of the Pilgrims.

Hens per lb... 14@15
Young roosters per lb... 16
Fryers... 16@17
Broilers per lb... 17
Old Roosters... 3½
Turkeys... 20@21
Geese... 12@14
Ducks... 13½@15
Squabs... 1.75@2.00

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 lbs... 6½
Prime steers... 4½
Heifers... 4
Calves per lb... 4½@5
Sheep ewes per head... 4.75
Lambs per head... 3.75@4.25
Wethers... 5.50

Potatoes.

Highlands... 1.25
Early Rose... 1.75@2.00
Salinas... 1.75
Colorado... 1.75
Sweet Potatoes per sack... 1.55@1.75
Oregon... 1.50@1.65
Idaho... 1.25

Onions.

Silver skins... 2.50
Yellow Danvers... 2.00@2.25
Australian Browns... 2.15@2.25
Globe... 2.50@2.75
Oregon... 2.65
Garlic... 8

Vegetables.

Artichokes per doz... 70@75
Beets per doz... 30@35
Bell peppers green lb... 3@4
Beans Lima per lb... 4@5
Beans green... 3@4
Cabbage sack... 25@30
Celery per doz... 65
Chili peppers green lb... 3@4
Cucumbers per box... 30@35
Pickling... 75
Corn per box... 75@85
Cauliflower... 40@50
Carrots per doz... 30
Eggplant per lb... 3½@4½
Green onions doz bunches... 10@30
Hubbard squash per lb... 1@1½
Lettuce per crate... 40@75
Mushrooms... 1.00
Pie Pumpkins... 1½
Peas sugar per lb... 8
Okra per lb... 5@6
Parsley... 30
Parsnips... 35@40
Rhubarb per box... 1.50@1.75
Radishes per doz... 15@20
Salsify... 30
Spinach per doz... 15@20
Summer squash crate... 15@35
Turnips doz bunches... 30
Tomatoes per box... 60@75

Citrus Fruits.

New oranges... 3.00@3.50
Grapefruit seedless... 2.50@3.00
Grapefruit seedlings... 1.75@2.00
Lemons fancy... 2.25
Lemons choice... 1.50@1.75

Fresh Fruits.

Bellefleurs... 1.90@2.00
Baldwins... 1.25@1.50
Pippins 4-tier... 1.30
Gravenstein... 1.50
Alexandria... 1.00@1.50
Cooking... 50@1.00
W W Pearmain... 1.75
Colorado Jonathans... 3.50
Casaba per crate... 2.50@3.00
Figs black per lb... 8@12
Figs white... 11@12
Guavas... 4@6
Grapes Isabelas per box... 1.25
Rose Peru... 1.10
Malaga per lb... 8
Muscats... 1.25@1.70
Tokay... 1.50@2.00
Cornichons... 1.25@1.75
Pears... 1.25
Winter Nellis per lb... 5
Peaches per box... 1.50@2.00
Pomegranates per lb... 7
Perisimmons... 5@8
Quinces... 1.25
Raspberries... 15@18
Strawberries... 6@8
Watermelons per cwt... 1.50@2.00

Dried Fruits.

Apricots... 17@21
Evap apples fy per lb... 10
Figs loose... 13
Peaches... 12@13
Pears... 12½@13
Nectarines... 13@14
Prunes... 3½@5½
Plums... 11½@13

Beans, Dried

Limas per ctl... 5.50@5.75
Pink No 1... 3.75@3.85
Lady Washington... 3.75@4.00
Small White... 3.90@4.00
Black eyes... 4.50@4.75
Garvanzas... 5.25@5.75
Lentils... 12@12½

Nuts.

Almonds per lb... 18@20
Peanuts Virginia... 8½@9
Peanuts California... 6@7½
Walnuts No. 1 S S... 15@16

Hay.

Barley No 1... 14.00@18.00
Barley No 2... 13.00@14.00
Alfalfa northern per ton... 15.00@17.00
Alfalfa new local... 15.00@17.00
Plain Oat No 1 new... 16.00@18.00
Wheat No 1... 18.00
Wheat No 2... 14.00

Grain.

Wholesale selling price f. o. b., Los Angeles.
Wheat new per ctl... 1.85
Wheat in 100-lb. sacks... 1.90
Barley... 1.50
Corn Eastern sacked... 1.80
White oats... 1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:
Cracked corn... 1.85
Shorts... 1.55
Bran... 1.40
Oil cake meal... 2.50
Feed meal... 1.90
Rolled barley... 1.75

The "Success" (no lamp) Incubator and Automatic Nest Co. have just gotten out the most modern (although inexpensive) poultry plant plans that genius and systematic experience have as yet brought into practical use.

The "Success" poultry house floor plan and elevation 8x8 and 8x11 drawn on scale of half inch to the foot, together with complete specification sent to any address in the U. S. for the small sum of \$1.00.

This house combines the roosting room, the scratch room, laying department and feed yards, all under the same roof, affording more convenience than any other style of house containing the same amount of material. Any reliable architect would charge five to eight dollars for making these drawings and specifications.

Any one contemplating the establishing of a first-class poultry plant cannot afford to be without the drawings, 25x17½, and complete specifications by the inventor of the "Success" (no lamp) Incubator, Brooder and Automatic Nests; price, \$1.00 by mail.

There is no better security against loss or hardships during a season of money stringency than a good flock of laying hens.

Write us for free circulars on the subject.

We are going to give away a few of our machines for the purpose of advertising them. Watch for the announcement.

The "Success" (no lamp) Incubator Co.,

J. W. O'Keefe, Pres.,
White Salmon, Wash.

Everything For Spraying

Whatever you want for spraying, be it pumps, equipment, or materials, write to us. We can supply promptly and at reasonable prices, Bluestone, Caustic Soda, Arsenate of Lead, Hose, Nozzles, Aluminum Spray Rod, everything.

Bean Spray Pump Co., 161 West Santa Clara St.
San Jose, Cal.

WITH A SEIVERT OIL BURNER

You can burn 100,000 feet of air with every 130 gallons of oil; this means perfect combustion. To burn more than 100,000 cubic feet of air with 130 gallons of oil, there is a decided loss of heat. To burn less than 100,000 cubic feet of air there is a loss of fuel. The only safe and reliable burner on the market. Send for full particulars.

SIEVERT OIL BURNER CO., 1001 No. Alameda St., Cor. Main and
Ord Sts., Los Angeles, Cal.



San Francisco Markets

SAN FRANCISCO, Nov. 25, 1907.

Butter.
Butter is very firm and coming in only in moderate quantities. At this time it is selling at 33 cents for California extras. Lower grades stand same as last week with a slight increase in quotations on Eastern extras.

California extras per lb.	33
California firsts	26
California seconds	25
Eastern extras	27½
Storage Cal. ex.	27½

Cheese.

California young American fy	15
California flats fy	14
Eastern fy	18½
Oregon fancy	15½

Eggs and Poultry.
Some are holding fresh ranch at 60 cents, but quotations are holding around the 56½ mark, which is practically the offering limit. Firsts and lower grades show a material increase.

Fresh ranch eggs	56½
Eggs firsts per doz	50
Eggs seconds per doz	27
Eggs thirds	23
Storage Cal extra	23
Eastern selected	23
Eastern firsts	20½
Hens per doz	4.50@6.00
Hens extra	6.00@7.00
Young roosters	6.00@7.00
Old roosters	4.00@4.50
Fryers per doz	4.50@5.00
Broilers per doz	4.00@4.50
Geese per pair	2.00@2.50
Ducks young	4.00@5.50
Turkeys per lb.	18@25
Pigeons	1.00@1.25

Live Stock.

Steers No. 1	8@8½
Do second quality	7@7½
No. 1 cows and heifers	6½@7
Hogs 80 to 200 lbs.	6½@7
Hogs 200 to 300 lbs.	6@6½
Calves per lb.	4½@5
Lambs spring	6@6½
Wethers No 1	5@5½
Ewes No 1	4½@5

Potatoes.

River whites	1.00@1.35
Oregon Burbanks	1.10@1.35
Salinas	1.50@1.75
Sweets	1.25@1.40

Vegetables.

Cucumbers per box	65@75
Corn per sack	1.50@1.75
Chili peppers per box	35@50
Bell peppers per box	50@75
Egg plant per box	50@75
Green peas per lb.	3@5
Squash per box	50@75
Marrowfat squash per sack	60@75
Hubbard squash per sack	60@80
Tomatoes California	50@75
String beans	6@6½
Wax beans	3@4
Garlic	4@6

Onions.

Onions Br Australian per ctl	2.35
Yellow	2.25

Citrus Fruits.

New navels	2.25@3.00
Grapefruit seedless	2.50@3.50
Lemons	1.50@4.50
Limes	2.50@4.50

Fresh Fruits.

Apples Gravenstein	1.25@1.50
Apples small stock	40@75
Figs one layer	50@1.00
Huckleberries	10@13
Melons per small crate	50@60
Pears winter Nellis	1.75@2.25
Pears cooking	1.00@1.50
Persimmons	75@1.25
Pomegranates per box	1.00@2.50
Quinces per box	1.00@1.25
Raspberries per chest	10.00@12.00
Strawberries per chest	5.00@12.00
Watermelons per doz	1.75@2.50

Dried Fruits.

Apples (evap.)	10@10½
Apricots per lb new	18@21
Figs white	3½@5
Nectarines	12½@15
Plums pitted	12@15
Prunes 4 sizes	4@5½
Peaches	10@13
Pears	7@13
Prunes 4 size bag basis	4½@5

Beans, Dried.

Limas	5.15@5.30
Pink	3.25@3.35
Small white	3.50@3.60
Large white	3.00@3.10
Lady Washington	3.40@3.50
Black eyes	4.00@4.25
Red kidneys	3.40@3.50
Bayo	3.15@3.25

Hops.

Hops new future delivery per lb 7½@10	
Hops old fancy	4@6

Nuts.

Almonds new	16½@17½
Peanuts California	6½@7½
Walnuts	14@17

Honey

Clear white comb	16@17
Amber	12@15
Extracted	7½
Beeswax No 1 per lb	26@28

Hay.

Alfalfa local	12.00@14.00
Tame oat choice	17.00@19.00
Wild oat	12.00@14.00
Wheat No 1 new	20.00@21.00

Grain.

Wheat No 1	1.70@1.72½
Barley No 1	1.60@1.62½
Corn small yellow	1.65@1.70
Corn large yellow	1.65@1.70
Oats white	1.60@1.65
Oats red	1.75@1.90

Feed Stuff.

Bran per ton	26.50@27.50
Straw per bale	75@85
Feed cornmeal per ton	36.00@37.50
Cracked corn per ton	37.00@38.00
Rollod barley per ton	35.00@36.00
Oil cake meal per ton	38.50@40.00
Cocoanut cake, per ton	25.00@26.00
Middlings	30.00@32.50

Citrus Market

LOS ANGELES, Nov. 26, 1907.

Oranges are going forward very moderately, but within the next week will commence to push forward more rapidly to reach the early holiday trade. Holiday fruit will probably go forward this year to a greater extent than ever before.

Prices are remaining fair.

Shipments.
Shipments to date, 553 cars, of which 297 were lemons. To same date last year, 183 cars, of which 117 were lemons.

In the auction markets a fair demand has prevailed.

PITTSBURG, Nov. 25.

Three cars navels, one car lemons sold. Market is weak. Weather favorable. Navels were pale.

NAVELS—

Bear and Eagle fy Lindsay	\$2.30
Squirrel fy AH Ft Ex Prenda	2.95

LEMONS—

Cavalier st AH Ft Ex Prenda	2.60
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CLEVELAND, Nov. 25.

Two cars lemons sold. Weather cool. Market is weak. There are three cars on track. One car navels sold.

LEMONS—

Whittier xch Semi-Tropic	\$ 3.45
Pico st Semi-Tropic Ft Ex Whit	2.55

NAVELS—

East Highland A xfy	2.45
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ST. LOUIS, Nov. 25.

One car navels and one car lemons sold. Weather cool. Prospects are that market will be lower.

NAVELS—

Gold Buckle xfy Ft Ex E High	2.75
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LEMONS—

Pet xch S A Ft Ex San Dimas	2.95
-----------------------------	------

Fortunes have been made this season in irrigated farms in Eastern Washington.

Glanders has appeared at Dayton, Washington.

The Celebrated DeLoach Mill

The World's Standard for 20 Years

Saw Your Own Lumber

For lumber is lumber nowdays, and you can do it better than the other fellow, with our help.

We Set the Pace —Others do the Best They Can

A 15-year-old boy can operate successfully. Two hands cut 5,000 feet per day. 15,000 mills in use the world over.



GUARANTEED CAPACITY 32 H.P. 1750 FEET 14 H.P. 3500 FEET 25 H.P. 5000 FEET
INCH BOARDS IN 10 HOURS

Variable Feed, Friction Set Works, Automatic Steel Triplex Dogs and Diamond Track produce results impossible with other mills. Send for catalog of Saw Mills up to 200 H. P., Steam Engines and Boilers, Gasoline Engines, Portable Corn and Feed Mills, Planers, Shingle Mills, Wood Saws and Water Wheels. Prompt shipment and we pay the freight.

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To Users of Compressed Air Pumping Plants

The Harris Air Pump Company's Twentieth Century Air Lift

For the Alhambra Addition Water Co., where we installed four pumps, from one well we pumped 48 inches with the Harris Air Lift, as compared to 30 inches by the old system, using the same power. Records of tests and catalogs mailed upon request. Completed plants installed. Air compressors, boilers and gas engines.

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C. M. DAY, Sales Manager 622 I. W. Hellman Building, 411 So. Main St., Los Angeles, Cal.
Home Phone F3413 Sunset, Broadway 2128

Largest National Bank West of Denver and South of San Francisco

First National Bank
of Los Angeles, California
United States Depository for Government Funds

TOTAL RESOURCES, \$20,000,000

ADDITIONAL ASSETS—One Million Five Hundred Thousand Dollars invested in the stock of the Los Angeles Trust Company and the Metropolitan Bank and Trust Co., and held by the officers of the First National Bank, as Trustees, in the interest of the shareholders of that Bank.

We are prepared to extend to the small depositor the same personal and careful attention that we do to our largest accounts.

F. M. DOUGLASS President	JOHN A. MURPHY Vice-President	CHARLES EWING Cashier
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No. 598 South Spring Street
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DIRECTORS—John R. Vogel, John Harlan, C. T. Crowell, W. J. Sherriff, John A. Murphy, J. H. Lapham, Frank A. Dailey, Charles Ewing, F. M. Douglass.

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When the new banking room in the Security Building at Fifth and Spring Streets, Los Angeles, is completed—which will be on or about December 1, 1907, the Southern California Savings Bank and the Security Savings Bank will be consolidated and will thereafter transact business in the name of the

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4% Interest on Term Deposits

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SAVES WATER, GRADING AND TIME

The only way to irrigate alfalfa. Cheaper than Flumes. This is only one of our specialties. We make **Riveted Water Pipe** in lengths of ten feet from single sheets. Let us prove to you that we make **Pipe and Tanks right**. WRITE FOR CATALOGUE.

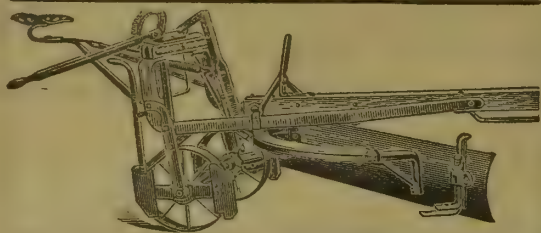
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The One-Man Road Machine

Easy to guide; strong, compact and easy adaptable to every condition demanded. It needs but one man and two horses to operate it. Notice the "no skid" rudders on the wheels. They are raised in the picture; when lowered they guide the machine straight ahead. The moldboard is six feet long. Has adjustable shoes shown at ends of moldboard to gauge depth to which moldboard should cut. It's a very desirable machine for road-building in city or village. It makes good roads and keeps them so. Although made of steel and malleable iron, still it weighs only 600 pounds. The

20th Century Grader

saves time of three men and two extra horses. It is easy on the horses. Has blade in front of wheels. Moldboard reversible. Machine turns in 6 ft. circle. Built for road-grading, Ditching, Land Leveeing, Foundation-digging.



For Irrigation, Canal Building Etc.

The price is lower than most such machines. We send it on free trial. Write us for our handsome booklet, "Delightful Roads." It's free and tells you all about the 20th Century.

The White City Grader Company Box 26, White City Kansas

Jno. Schilling, Jr., Sales Agent, Davies Warehouse Co. Los Angeles

Our Superior Lines of



Water Proof Flume Linings

For Irrigation Ditches

Are in great demand. There's a reason. Tell us your needs. Samples and prices, free.

Pioneer Roll Paper Co.

Salesrooms—219-221 South Los Angeles St., Los Angeles, Cal.

Phones—Home, Ex. 228; Sunset, Ex. 22

Light Your Place by Electricity

Electric Light is very economical if you have this outfit—a Fairbanks-Morse Engine with Dynamo. The Dynamo current operates incandescent or arc lights, electric fans, pumps, motors, etc. Shift the belt to the other fly wheel and drive any kind of machine—grinder—churn—buzz saw—separator. Save yourself time and labor by installing one of these outfits on your farm. Soon pays for itself. Simple, safe, reliable. Ideal outfit for farmers. Lowest running and repair cost. Our name your guarantee.

Does This

Runs buzz saw, pump, grinder, cream separator, churn, electric light plant, etc.

Here's Your Electric Plant



Write for FREE Engine Book No. C 1034 on Fairbanks-Morse Engines

Shows how our engine outfits save farmers money. We make several styles and sizes of engines.

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LOS ANGELES

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Don't Experiment

With untried engines. Buy an engine with a *guarantee* of the *lowest cost for fuel*—the

White & Middleton

Absolutely reliable, tested and proved.

Wm. Gregory

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Water Tanks, Wine Tanks made from carefully selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.

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BOSTROM'S IMPROVED FARM LEVEL

Used for irrigation and drainage work. Cheapest and best level yet invented for farm use. Has the latest patented improvements in simplicity and usefulness. Can be operated by any one. Price including telescope tripod and target rod \$12.50.

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Coast Agents.

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Are Strong and Durable

Fully Guaranteed in every Particular. We make complete Irrigation Outfits.

Samson Centrifugal Pumps Are the Best.

Enlargement of our factory makes it possible for us to make prompt delivery.

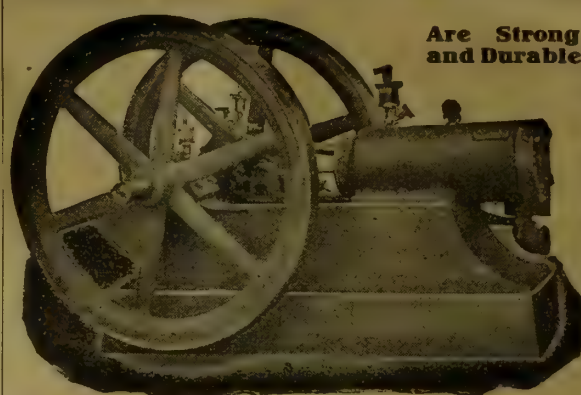
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Samson Iron Works

Office and Factory: 1100 to 1198 Aurora St. Stockton, Cal.

Branch: 920 J St., Fresno

553 S. Los Angeles St. Los Angeles



The Callahan Oil Engines

The Highest Grade Made. Won First Prizes at Sacramento and Porterville Fairs. Large Stock always on hand. Send for Pump and Engine Catalogues.

G. W. Price Pump Co.

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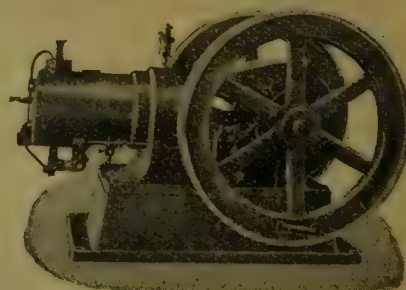
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SEND FOR BULLETIN NO. 15



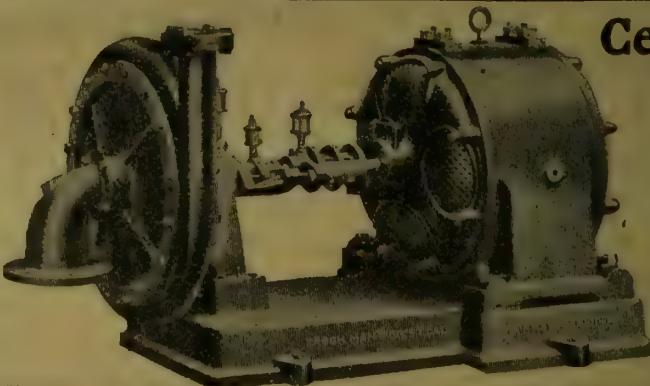
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For high or low heads *Direct Connected or Belt Driven* Highest obtainable efficiency

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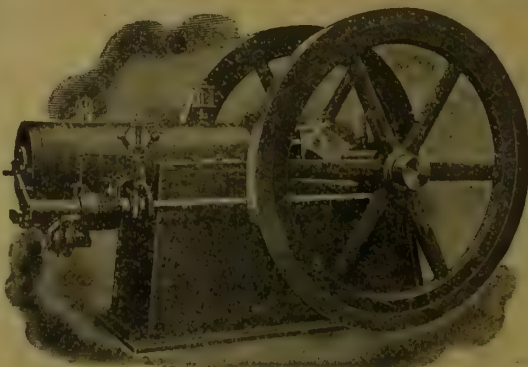
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Have stood the Test 14 Years

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500,000 FEET OF WATER PIPE

All sizes, Galvanized and Black, slightly damaged. *Special Price While It Lasts.* Phone or write.

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National Wood Pipe Company

Woodward Pat. Machine Banded Pipe, Wheeler Pat. Continuous Stave Pipe, Bored Wood Water Pipe

Made from California Redwood **WOOD PIPE** Or Selected Puget Sound Yellow Pine

Puget Sound Office: Olympia, Washington

Los Angeles Office: Cor. First and Spring Sts.

San Francisco Office: 258 Market St.

Salt Lake City, Utah: Dooly Block

A Booklet, "The Whole Story About Wood Pipe," mailed free upon request.

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California Cultivator

Los Angeles

December 5, 1907

San Francisco



**The
Super-
lative
Berry**

**A Red,
Sweet
Berry,
Three
Times as
Large as
Other
Varieties**

Courtesy A. Mitting, Santa Cruz

Coulson's Improved Mash Egg Food

Takes
Less
Feed



Makes
More
Eggs

IF YOU WANT PLENTY OF EGGS THIS FALL AND WINTER when prices are high, you must lay your plans now. The hens must be given a strong feed which will enable them to get through the molt without loss of condition, and they will then quickly commence laying again.

First, see that your hens are healthy when they start to molt. At this time of the year, after a heavy laying season, they are apt not to be at their best, and a little of **COULSON'S NO. 3 CONDITION POWDER** will put new life into them, and enable them to thoroughly digest and use the good food which they specially need.

At the same time they must have the best food you can give them from the commencement of the molt. You will find **COULSON'S IMPROVED MASH EGG FOOD** is just what is required. It is strong in protein, due to the blood, meat, bone and oil cake meals which it contains.

Put Up in 90-Pound Sacks
Directions in Each Sack

Your hens will not need to eat so much of the concentrated food to obtain the egg-making and feather-producing materials they need, thus saving their digestive organs and your pocket at the same time.

COULSON'S IMPROVED MASH EGG FOOD is therefore beneficial in two ways. Less feed is required and the hen gets just what she needs, with the result of a quicker molt and more eggs.

First cost is not everything, but even in this respect **COULSON'S IMPROVED MASH EGG FOOD** shows to advantage. A 90-lb. sack will make a meal for 1250 hens. This is just over 2 lbs. a hen a month. Think how many eggs does it take to pay for this feed? In November, only 1 egg, and not more than 2 on the average.

We know what this feed will do by results on our own poultry ranch, as well as from testimonials from pleased customers all over California. What it does for others, it will do for you.

Give a trial order to your dealer; if he does not keep it, write to us, and we will either advise you where you can get it locally, or supply you direct.

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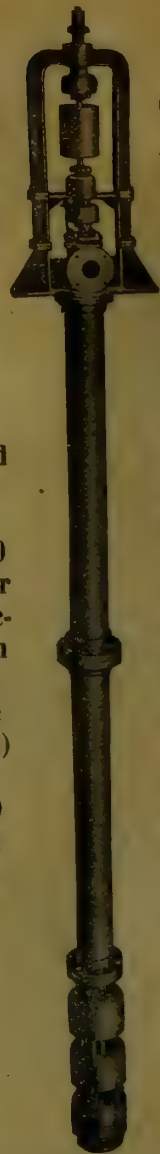
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California Cultivator

Vol. XXIX—No. 23

Los Angeles, California, Thursday, December 5, 1907

Subscription \$1 a Year

The Agricultural College and Dairying

By E. J. Wickson, Dean
of the College of Agri-
culture and Director of
the Agricultural Experi-
ment Station of the
University of California



At the Convention of
the California Creamery
Operators' Association,
University Farm, Davis,
Yolo County, California,
November 22, 1907

ACCCEPTING your kind invitation to address your convention I desire first to sincerely thank the California Creamery Operators for their earnest and persistent support of the measures which have secured for the agricultural department of the University of California the possession of this grand farm as an addition to its equipment for instruction in policies and practices which minister most directly and surely to success in the rural industries of California. As the law prescribes, the University Farm will advance in equipment until it is "producing the general crops of the State and as many as may be of all the crops and products successfully grown in California."

In the various branches special instructors will be provided who will be expert in knowledge and apt to teach. Professor E. W. Major and Mr. E. H. Hagemann are now at work on equipment in dairy lines, and Dr. Leroy Anderson will soon return to the service of the university after his most successful and creditable work in building up the California Polytechnic School at San Luis Obispo. These men, and others who will assist them, will carry the special instruction in various phases of dairy production, and in due time announcement will be made of the details of the undertaking. It is timely for me, perhaps, to present a few general considerations in favor of dairy promotion, and to claim that dairy advancement rests largely upon special efforts in research and instruction, which it is the duty of the university to put forth. My subject then, will be, "Some of the Relations of the Dairy Industry in California."

Relation of the Dairy to State Development.

The annual output of products of an estimated value of twenty-two millions of dollars constitutes the dairy industry, one of the leading agricultural interests of California. The fruit products are thrice as great and the grain crops have, in years good in price and yield, been twice as great, but fruits and grains have attained their pre-eminence along avenues of export. Our dairy products are almost wholly consumed within our own State lines and though expansion through export seems attainable, it has thus far been realized only in very small degree. It is fair to claim that what has thus far been accomplished in the development of dairy husbandry in California is but a promise of future greatness and that present opportunity is vastly greater than achievement. This fact has been clearly perceived for several years, and commendable effort has been continually put forth by dairy proprietors and their skilled employees to lift their work to the exactness of practice and uniform excellence of products which are attained by faithful adherence to modern dairy principles and methods. Without such advancement the industry can only remain provincial and must suffer within its own territory by competition with high-class, dairy products brought from other

regions, many of which are less favored naturally. So long as we are buying butter, cheese and pork products by the million dollars worth from the producers of other States it is of very great advantage to the State to promote dairying upon the lines of the best methods and the highest quality of products, because it will cancel the great tribute we are paying to other States for what we can produce ourselves, and because it will enable our people to easily pay taxes upon an increased home valuation instead of really paying taxes upon the increased valuation in other States, as they are now doing.

Relation of Dairying to Land Values.

I have spoken of the increased assessed valuation of California through the extension of the dairy interest as desirable and of the taxes as easy to pay. This is true because the dairy, if properly conducted, will make productive and profitable much land which is now almost a burden to the owners. Our grain lands are coming close to the line of actual loss, because of the reduced product per acre. With our cheaper methods of seeding and harvesting, grain growing would still be profitable if larger crops could be had. The dairy will render profitable much land which is not well adapted to other agricultural specialties.

Fruit trees and vines have been planted on thousands of acres upon which they will never yield profit. The sooner these lands are turned over to some proper line of animal industry, the better it will be for the owners and for the State. These lands are of several kinds and they are found all over the State. There are dry lands which produce small fruit and stunted trees which, if properly handled, will yield rich winter pasturage; there are low lands which are too frosty for fruits, or too wet in winter for the health of the trees, which need only good farming to secure immense yields of summer pasturage or silo crops. There are also large areas of lands capable of reclamation, upon which large herds of dairy stock could be very profitably maintained. All these directions of making scantily-profitable lands yield satisfactory income constitute the dairy of distinct and important value to the State.

Relation of the Dairy to Soil Fertility.

A dairy by-product which is seldom figured is the manure. Careful experimentation has shown that the excreta of a dairy cow are worth about eight cents per day, computed at the standard valuation of the plant food substances which they contain. This for a year would be \$29.20 per cow, and for the 405,616 milch cows which the Department of Agriculture credits to California in January 1907, the total value would be \$11,843,987.

The worth of manure is conditioned upon the character and amount of the food supplied to the animal, and the current estimates of value may

be based upon higher feeding than California dairymen practice. Suppose, then, we discount the above total one-third, we would still have about \$8,000,000 as the value of manure as a by-product of California dairying. This by-product is not sold. If the dairying is properly done every possible part of it is restored to the soil, not only maintaining, but increasing its fertility. The dairy is, in fact, not only restorative, but productive of new plant food in the soil.

If then it is claimed that the value of the manure should not be counted, because it is not sold, but is restored to the land and used in subsequent production of dairy products, the answer is that the dairy must be credited with this value because it is doing what other leading agricultural industries do not do. Our fruit industries make no adequate return for what they take from the soil, and fruit growers are each year paying a larger part of their gross receipts for commercial fertilizers.

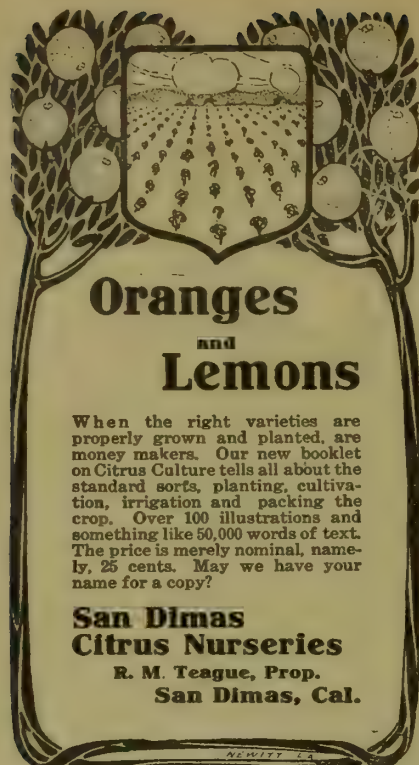
Our hay and grain and other field crops are robbing the soil until its poverty is becoming conspicuous and still very few growers can command knowledge and courage enough to be generous with the soil. The dairy, if at all properly conducted, is a great conservator and returns to the State continually more than it takes. On this ground alone the dairy industry is of great value to the State and its improvement and extension are matters of the clearest public benefit.

Relation of the Dairy to Mixed Farming.

Another element of value in the dairy lies in the fact that the cow is the corner stone in successful farming. It is becoming more manifest each year that there is greater safety and prosperity in developing in each region, and in many cases on each farm as well, certain related lines of production to which the conditions are suited. The dairy is a leading factor in diversification, because it is capable of intensive culture and it returns a high-priced product upon which much labor and investment can be profitably bestowed. Not only is this of great help in making single farms profitable and their owners prosperous, but it distributes its benefits all through communities, it gives regular employment to thousands, it stimulates local trade and builds up towns and villages and assists in the development and progress of all good enterprises.

Proper rotation of cropping and pasturage will restore the grain yield to better figures and it will bring into our pockets the millions in value of plant food which our purchase of dairy products leaves to enrich distant supply regions. Wherever dairying has been properly introduced into the grain districts of the State there is to be found abundant testimony to the truth of this claim. Dairy extension will increase our grain product and make it profitable.

Continued on Page 542



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and
Lemons**

When the right varieties are properly grown and planted, are money makers. Our new booklet on Citrus Culture tells all about the standard sorts, planting, cultivation, irrigation and packing the crop. Over 100 illustrations and something like 50,000 words of text. The price is merely nominal, namely, 25 cents. May we have your name for a copy?


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Orange Seed Bed Stock

Both sweet and sour, the very best. Orders booked now for delivery Spring of 1908.

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Both Phones



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Our constant endeavor is to make those who have dealt with us once feel like coming again.

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With the Citrus Growers

PLANTING CITRUS TREES IN FLORIDA.

AN interesting view of conditions and methods of work in Florida, is given in the following from the Florida Agriculturist:

One of the best times in the whole year is now approaching for the setting out of orange and grapefruit trees, and a few words at this time will, I think, not be amiss, and may possibly be of service to some that have in mind the setting of young trees or groves.

We will now assume that we have a piece of flatwoods pine land that is of good quality, that we have it well drained with ditches of sufficient size to carry off the surplus water quickly; that we also have this land plowed into beds, say 25 feet from center to center, and the ground nicely shaped or graded to the water furrows, so that we can run the point of a mowing machine right down to the bottom; that the bottom of these furrows is about eighteen inches below the top of the beds; that this ground has been in cultivation to some crop for one or two years; that it has had sufficient time since being plowed last for the soil to knit well together (this is important in setting trees), and that this land is capable of growing a good crop of grass without further fertilization. We then assume that a body of timber is on the west or north side, at no great distance, that it is likely to remain for some time, or, better still, that we own it and thus assure its supremacy. Having all these things we have an ideal place and condition of ground and location if not too far north.

Now to setting these trees, we will take into consideration the most important of all things, the distance apart they should be set. Some will say thirty feet, others twenty, and still others different distances, from fifteen to forty. I have already said we had our land plowed into beds of twenty-five feet. I should prefer to have these run north and south if possible, but if not it don't make a great deal of difference if they run east and west. This indicates that the trees are to be set twenty-five feet one way, this puts the rows sufficiently wide apart that we can use a mowing machine conveniently, and no grove of any size should be managed without one. Now, having our rows twenty-five feet apart, we will set our trees about twelve feet apart in the rows. I know there will be lots of dissenters from this in the old school of orange growing, and accordingly I will go into detail as to why they should be set close. First, no one will dispute the fact that there is no place in this great State of ours that is free or exempt from severe cold. I think the Supreme Architect of the universe has demonstrated this pretty thoroughly in the last few years. Also it is a well known fact that an orange grove like a body of timber, will retain its own heat, and the thicker the timber or trees, the better it will do this; therefore, to better protect them from freezes is one reason for planting close. Another is, they will better protect themselves from damage to fruit as well as to the trees by high

or heavy winds. Also we are enabled to get better fruit on the closely planted trees by not having them exposed so much to the sun, as well as the wind, where the trees are thick. Now, summing all up, the trees are much better enabled to withstand the ravages of all the elements, they will bear just as well bring finer fruit, grow lower to the ground, cost less to gather the fruit take less cultivation, and for the first ten years bear twice as much fruit as if they were planted twice as far apart in the rows, as is common practice; hence, be twice as profitable for the first ten years. If at the end of that time it should be decided that they are too thick to be profitable every other tree can be transplanted into a new grove, and if well and carefully done, in two years it will bear again and bring nearly half as large a crop as it did on its old stand.

A good many years ago I had my attention first called to this matter of close setting trees. Near where I lived were several small groves, and in each of those I have in mind, was a small body of trees that had been budded on their natural roots and never were moved, and these trees were very thick, standing very close to one another. I have watched them year after year, and they never failed to bear good crops. No matter what the surrounding grove did, they did their duty, and not only so, but the fruit was a larger per cent fancy and not as subject to rust.

On the grove I now have, a portion is set close and it far outstrips the which is set the usual distance. In the groves that I set are planted as above described, and there is no question that as the prejudice against it is overcome it will be the modern method of planting.

SOME SOURCES OF NITROGEN.

NITROGEN is the most expensive of the fertilizing materials, and for this reason especial care should be exercised in purchasing materials containing this element.

Organic Forms.

Two organic forms very much used in Florida are cotton-seed meal and dried blood. If we judge cotton-seed meal solely by its nitrogen content (about 6.6 per cent. on the average for bright meal), its present high price would place it at a great disadvantage when compared with such materials as nitrate of soda and sulphate of ammonia. It should be remembered, however, that the meal contains also some phosphoric acid and potash. Jenkins and Street (Cotton-seed meal as a fertilizer. Conn. Expt. Sta. Bulletin No. 156), have pointed out that the average of 3 samples showed 2.97 per cent. phosphoric acid, and 1.90 per cent. potash. Now, if we accept 20 cents a pound as the price of nitrogen, 5 cents for phosphoric acid and 5 cents for potash, then for a ton of cotton-seed meal analyzing 6.6 per cent. nitrogen, 2.97 per cent. phosphoric acid and 1.90 per cent. potash, the calculated value would be as follows:

Nitrogen	.....	\$20.
Phosphoric Acid	.....	29.7
Potash	.....	19.0

Total \$31.60

Bright cotton-seed meal is now quoted on this market at \$31.60, and it will thus be seen that the cal-

Citrus Trees

For Season 1908

Valencia, Eureka Lemons, Thompson and Washington Navels, Grape Fruit

C. L. McFarland & Co.
Riverside, Cal.

Sour and Sweet Orange Seed Bed Plants

The Finest Lot in California

My sour orange plants are grown from seed off the wild orange trees of Florida. Trees grown on this stock are very desirable for planting in heavy soils or lands that are subject to excessive moisture or drouth, also lands underlaid with clay or hardpan or poorly drained. Its most valuable feature is its resistance to gum disease.

My sweet orange plants are grown from seed off very large, old Tahiti seedling trees, thus making the very best foundation to grow an orange orchard on. Don't fail to see my stock before you buy, or address

William Wood, Box 118, Whittier, Cal.

Green Manuring

Now is the time to plant crops for green manuring. The best crops for this purpose are Vetch, Canadian Field Peas and Fenugreek. For information and prices of the seed write to

Johnson & Musser Seed Company

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For Gardening, plant Onions, Lettuce, Spinach, Turnips, Beets, Radish, Carrots, Cauliflower and Cabbage.

When writing advertisers, mention Cultivator.

lated and market price are practically the same. If we assign the same value to the nitrogen in nitrate of soda, namely, 20 cents per pound, then nitrate of soda analyzing 15 per cent. nitrogen would be worth \$60.00 per ton. Nitrate of soda is quoted on this market at \$59.60 per ton, so that we see here again the prices as calculated and as quoted, running very close together. Thus it would appear that when we take into consideration all the plant food elements, cotton-seed meal is but little, if any, more expensive, proportionately, than nitrate of soda. Should we adopt some other figure as the price of nitrogen, 17c for example, the same relationship would hold true, that is, the ratio of the calculated to the market price of cotton-seed meal would be practically the same as the ratio of the calculated to the market price of nitrate of soda. It may be noted that the fertilizing elements in cotton-seed meal become available rather slowly, and on this account are not lost by leaching to such an extent as nitrate of soda or sulphate of ammonia would be. Hence, for crops that remain in the ground over long periods of time, as the pineapple, citrus and other trees, this form of nitrogen would seem especially adapted.

Dried blood is considered one of the best sources of organic nitrogen. It contains 13 to 14 per cent. of nitrogen, and decays rapidly when placed in the ground. Organic materials, such as cotton-seed meal and dried blood, must undergo, in the soil, natural processes known as nitrification, before their nitrogen can be assimilated by the plant. The nitrification processes are dependent upon minute organisms known as nitrifying bacteria, and these in turn require a certain degree of warmth and moisture. Fortunately for the farmer, these organisms are almost universally present in soils that have been properly cultivated and drained. This fact is well illustrated by the rapid disappearance of animal excreta or meat scraps after being burned in good soil. Nitrification does not take place so rapidly at the surface as it does a few inches beneath the surface; and furthermore, the loss of nitrogen by escape of ammonia into the air will be greater if these changes take place at the surface. Hence the importance of placing organic fertilizers lightly beneath the surface of the soil.

Organic Forms.

Nitrate of soda is very soluble in water, and when thus dissolved, can be taken up by the plant directly without further change. The ease with which this material dissolves, makes it an expensive source of nitrogen to use during rainy periods. For use during periods of drought, and for quick-growing crops, it is especially adapted. It contains about 15 per cent. of nitrogen.

Sulphate of ammonia contains about 19 to 22 per cent. of nitrogen, and is also readily soluble in water. Much of it, however, is probably not taken up by the plant until it is converted, by bacterial action, into the form of nitrate. It is regarded by some as unsuited to soils having an acid tendency. It should not be used directly with lime, as in this case the lime would be likely to liberate ammonia. Lime does not, however, have its effect upon nitrate of soda.—A. J. Blair in Bulletin of Florida Experiment Station.

Oroville orange growers are getting \$2.25 per box for their fruit.

EDUCATION IN AGRICULTURE.

In speaking of the advantages of technical secondary education in agriculture mechanic arts and home economies in support of his bill to provide an annual appropriation for industrial education in agricultural high schools and in city high schools and for branch agricultural experiment stations and regulating the expenditures thereof, Hon. Chas. R. Davis of Minnesota said:

A Federal appropriation is sought for the purpose of encouraging the several States and territories in the promotion of industrial and agricultural education, and with their co-operation. It is mainly for the purpose of encouraging a type of education for the mass of our people that will train them for the practical affairs of life; and while the Morrill Act of 1862 has undoubtedly stimulated great activity along this line, the present measure supplants it and to a large extent will consummate the purposes desired. The science of agriculture is basic in principle, and sooner or later we should return to first principles, and in the last analysis we must recur to the soil as the fundamental source of our wealth, prosperity and happiness as a people. The practical training to be obtained, if this bill becomes a law, for the young men and women on the farm, will undoubtedly make country life more attractive and beneficial and the industrial training sought to be encouraged in city schools add very materially to the prosperity and happiness of all those who will avail themselves of the opportunities thus provided. The measure, therefore, responds to the needs of both rural and city conditions.

This bill is designed especially to secure simple justice to the workers and homemakers of our country. We have too long confined technical education to the professional classes. Let us carry out the wise plan begun by Congress in 1862—the land-grant act establishing colleges of agriculture and mechanic arts—and provide, along with general schooling, industrial education, not only to the privileged five per cent, but also to the 95 per cent who are doing the world's work.

The increase of knowledge, the specialization of industries, and the close division of labor have made a new world, into which the graduates of our schools are precipitated. The old education leads the pupil to believe that he is prepared for life. His preparation is only general. The new education must prepare the pupil for some specific line of life. It must be both broad and practical. It must combine the theme written in the book, the theme written in the soil and in the machinery, with the inspiration for the best living which modern conditions can provide.


CONSIDERATE BRIDEGROOM.

A Belleville girl and a young man, both of whom had steady jobs, were married the other day. The day after they were married the girl said to her fond husband:

"Oh, George! now that we are married, there is only one thing that I regret; and that is that I have to give up my fine position."

The fond young husband stroked the silken tresses of the young wife's hair and soothingly replied:

"Now, darling, don't worry. You needn't give up your position. I'll give up mine."—Judge's Library.



I.H.C. IRRIGATING ENGINES

If the Water is Lower Than Your Land an I.H.C. Gasoline Engine Will Solve the Problem.

THAT is often the problem with irrigators—the water is lower than the head of the ditch. The old way of doing was to construct the ditch up stream (often several miles) and head it high enough so that the water would flow down upon the land. If the only available water was a lake or pond below the land, irrigation was usually abandoned, because it was thought that the water could not be pumped up in sufficient quantities, or the pumping operation would be too expensive.

Irrigators know better these days. They are now placing I. H. C. gasoline engines on the banks of these low lying lakes and converting the waters to a beneficial use on their thirsty lands. They no longer find it necessary to build miles of extra ditch to get fall enough to reach the lands. An I. H. C. engine will take the water from the stream where it flows through or near the farm, and raise it any reasonable height.

Irrigation problems are solved with the I. H. C. engines, because they have three main characteristics that adapt them to the work:

First—They pump water in unlimited quantities.
Second—They raise water at a low cost.
Third—They make a near approach to self operation. When set going they run for long intervals, regularly and dependably, with the least possible attention. The result is that I. H. C. gasoline engines are completely changing irrigating methods. Fertile but dry uplands are being brought under cultivation where a few years ago that was thought to be impossible.

Have you a dry farm on your hands? Or do you know of a fine piece of land you would homestead if you could get some "unappropriated" water for it? There is no reason why you should abandon your project. There's always near at hand a low lying lake or a slough or an underflow or a well or a stream down at the foot of the bluff. Find anyone of these, and an I. H. C. engine will put the water where you want it.

The engines are made in various styles, Vertical, Horizontal—Portable and Stationary. They range from 2 to 20-Horse Power.

Look into the matter and see which one of these irrigating powers will do for you. The local International agent will be glad to talk over your particular case, furnishing catalog and giving engine particulars. Or if you prefer, write nearest branch house for catalog.

WESTERN GENERAL AGENCIES: Denver, Colo., Portland, Ore., Salt Lake City, Utah, Helena, Mont., Spokane, Wash., San Francisco, Cal.

INTERNATIONAL HARVESTER COMPANY OF AMERICA
(Incorporated)
Chicago, U. S. A.

Less Work—Better Results

The first matter of importance when spraying is to secure clean fruit and healthy trees; the next thing is to have expended the least possible amount of time and money.

Bean Magic Spray Pumps

are peculiarly adapted to do these things. They are entirely different from other pumps in almost every respect, but particularly because they

Save One-third The Labor

In the Spring rests the secret. What's the use in working so hard when the same results can be accomplished with a third less labor? Save time and effort by dividing the work, doing half at each stroke of the handle instead of doing all at one stroke, and meanwhile be working against only **one-half** the pressure indicated on the gauge. **Magic** pumps are built in two sizes and have non-clogging ball valves. It is worth your while to see one in operation.

We have samples of these pumps in stock and will be pleased to show them to you.

Bean Spray Pump Co.
161 West Santa Clara St., San Jose, Cal.

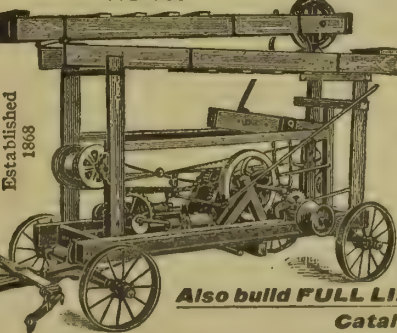


FIG. 300

THE American Well Works

AURORA, ILL., U. S. A.
CHICAGO, ILL. DALLAS, TEXAS,

**Build the Standard BORING, COR-
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MACHINERY**

**Your Traction Farm Engine will suc-
cessfully drive, in prospecting, that
OIL, GAS or WATER problem.**

Also build FULL LINE heavy PUMPING MACHINERY.
Catalog mailed on request.

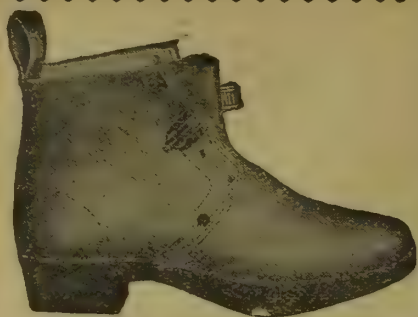


TENTS

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Irrigating Hose, all sizes. Prices and Samples quoted upon application. Write your wants 300 slightly used tents, all sizes, for sale cheap.

Mellus Bros. & Co
Phones—Home, F 4871; S. S. Main 3500
250 East Fifth St., Los Angeles, Cal.



Wood Sole Boots and Shoes

We wish to call your attention to the fact that we have a large stock of Wood Sole Boots and Shoes of the very best quality. The Uppers are made of the very best quality Milwaukee Oil Grain. The Soles are well-shap'd and are an exact and comfortable fit, and our **Patented Fastening** makes this a **Waterproof** Shoe. We all know wood is a non-conductor, consequently it is much drier and a great deal **warmer** in Winter. They are lighter than Rubber or Leather Shoes and Boots. Shoes, \$1.75; Boots, \$3.00; Ralls, 25c extra.

O.J. Weber Co. 555-557 S. Los Angeles St., Los Angeles, Cal.

Live Stock and Dairy

THE BERKSHIRE.

THE Berkshire is one of the most popular money makers in America. He matures early, is a good grazer and takes to California alfalfa like a duck to water, and then fattens and hardens up quickly on grain.

It is a native of the county of Berkshire in Southern England, where the history is traced back until the middle of the eighteenth century. It was greatly improved during the early part of the nineteenth century, by the introduction of Chinese and other blood.

It was first introduced to America in 1823. In '39 to '41 the importations became much more frequent and was warmly received in the "West," which was Ohio at that time, where it has ever been a favorite.

Pigs should weigh at six months, 175 pounds and at twelve months 300 pounds.

They mature early and fatten easily.

AGRICULTURE COLLEGE AND DAIRYING.

Continued from First Page
Relation of the Dairy to Labor Supply.

Although the unsatisfactory labor supply is at present one of the greatest drawbacks to dairy production, the extension of dairying at present prices, which bid fair to be indefinitely maintained, will actually increase the local labor supplies, because of the attraction which it offers for profitable, regular employment. In fact, the dairy industry has a clear, corrective influence upon what are considered some of the evils in the labor situation in this State. Our present possession of dairy cows employs upwards of 20,000 people and they are continually employed and comfortably housed. In the dairy connected with other crops the hands can give part of their time to other work as required, and thus the dairy is the key to continuous employment of nearly all farm labor, except in harvest rushes, and will point the way to the better general condition of our farm laborers which is so earnestly desired by all. Thus the dairy becomes a valuable reform agency, ministering not only to the prosperity and comfort, but to the moral welfare of our laboring population.

Relation of the Dairy to California Agricultural Science.

Dairy progress is one of the most striking and significant demonstrations of the value of applied science along agricultural lines and is, perhaps, the most widely recognized of all the triumphs of agricultural college and agricultural experiment station work. In California there are conditions which suggest opportunities for the enlistment of trained young men and women in the up-building of a new dairy interest which shall vastly surpass anything thus far attained in this State.

One thing which is particularly interesting in the dairy industry of California, is the great variety of conditions to which local practice must be intelligently adapted. Though there are, of course, lines of policy and practice which are everywhere alike, there are others which

are, or should be, strikingly different, and therein lies the opportunity for insight, research and great progress in selection of materials and modification of methods. This is true in all departments of dairy work, from the selection of forage plants and the care of stock all the way through the dairy curriculum to the manufacture and care of the product.

There is no variation on the Atlantic slope as can be found in California, but there is something analogous in Europe if one includes this view the dairying of the Alpine valleys, of the moist, dyked lands of Holland, of the heated, irrigated plains of Italy and of the coast lands of Normandy with their perennial pastures born of equable temperature, abundant rains and fogs. Close resemblances to all these various conditions can be found within the boundaries of California, and how secure for each of them suitable forage plants and most productive cattle and types of product which shall best present their distinctive adaptations acceptably to the consumer, a question of much complexity.

Shall California compare its conditions with those in distant regions which they seem to resemble and try to borrow wisdom from the results of centuries of old world experience? That is the method which was tried at first with our fruit products. The utmost effort was made to learn exactly the ways by which the French made prunes. Now California is producing one hundred and thirty-five million pounds of prunes a year in ways the French never thought of, and is exporting a surplus to Europe—even selling some of them in France. The utmost effort was made twenty-five years ago to ascertain just how irrigation was done in Italy, in Algeria and in India. Now commissioners come from all arid countries to study the California methods of irrigation. There is full reason to think that our dairy development will also proceed along original lines, and it rests with the rising generation of technically educated men and women to master the situation and to invent the methods of advancement which are likely to be characteristically Californian.

Relation of the Dairy to Special Lines of Research.

But though this element of originality will mark the methods which are finally adopted as best suited to our conditions, their attainment will be promoted by the same attitude of mind and the same diligence in search and experiment which prevail in all advanced dairy circles. The powers of the trained dairy student have rich opportunities for achievement in this State, some of which may be suggested:

Which ones of the many dairy breeds will best befit the various regions of California? Many have been brought here, their influence upon the common dairy stock of the State has been good, and we have, as a rule, very creditable grade cattle for dairy purposes. But here, as elsewhere, dairy profits are reduced by feeding cows which do not pay the way. It is also undetermined the

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the good ones are as good as they may be or as well suited to the distinctive conditions of the different regions. Experiment and close observation are needed in all parts of the State to lift cow-power to the highest attainable point.

Which are the forage plants which, under the influence of local climates and local soils, will enable the best cows to reach their fullest production? Ever since the first years of the American occupation alfalfa has been grown in California and yet its area has increased more in the last five years than in all the preceeding forty. We are, perhaps, doing more with alfalfa than any other State or country in the world, and yet we have hardly learned the vast value of the plant and the best ways to use it in feeding practices. Alfalfa probably still contains more potential wealth for the State than any other single member of the plant creation. A priest and prophet of alfalfa has not yet appeared above the common level of mankind. And yet alfalfa has serious limitations and is not adapted to great districts of the State. Other plants must be sought. For twenty years the College of Agriculture of the University of California has been introducing forage plants from all parts of the world to determine by experiment which would thrive under trying conditions in this State, and some notable results have been attained, but the opportunity for enriching the pastures of California and multiplying their production in live stock and dairy lines still remains for devoted effort and close observation.

What foods can be best locally grown or manufactured to profitably supplement pasturage? This is an almost unexplored field of investigation, so far as the general dairy practitioner is concerned. Too many are keeping but one cow to four or five acres of land, which should support twice as many if more intelligently administered. This is in part involved in the pasturage, which has already been mentioned, but, beyond that, the production and conservation of supplementary food remains as a wide field for improvement. There is seldom reason why a cow should go a day without succulent food, if her owner has the knowledge and the energy to provide it. There is no reason why she should pass a third, or a quarter of the year in idleness while her inhuman owner robs himself by half starving her because she is yielding nothing.

As to Silage.

There are several hundred silos in the State which conserve succulent forage, as the jar preserves table fruit, and keep the cow up to her fullest production and in the jolliest comfort, though the pastures be bare as the roadway. There should be a hundred times as many, and there will be as soon as their value and plain practicability are better understood. The science of suitable and adequate feeding affords an almost limitless opportunity for advanced research, thought and practice.

Although California has, deservedly, a good reputation for excellence in the butter product and for such high average quality that "cooking butter" is always scarce, there is still opportunity for improvement.

See us for Sanitary Milk Bottles. O. J. Weber Co., 555-557 S. Los Angeles street., Los Angeles.

Though we have exceptional advantages in attaining high quality, because the dryness of the air while the temperature is high measurably prevents unsound fermentation in the milk, it is true that much of our butter is below the high standard which modern commercial dairying prescribes. We need better conception of quality, better knowledge of how to attain it and a wider use of the agencies recently devised to secure the largest amount of the best product at the least cost. Here are manufacturing problems than which the whole list of agricultural arts presents none which make such sharp requirements upon the talent and training of the operator. He has to deal with a most perishable material, full of unstable compounds, absorptive of all atmospheric ills, endangering by slight changes of temperature and commercially ruined by any lapse of perception or judgment upon his part, and is required to baffle all adverse conditions and agencies until he has at length imprisoned ethers light as the fragrance of a flower in a golden solid, pure and permanent and permanent because pure. Our grandmothers did this empirically sometimes by the roll or firkin; our butter makers of today must do it day by day, and by the carload. It can only be accomplished by the acutest perceptions ministering to true conceptions of ends to be sought, and attended by the fullest knowledge of the nature of the materials and the efficacy of all agencies employed. To know this problem is to become an advocate of dairy education. It is the only power which can help the industry.

The Duty of the State to Dairy Improvement.

The demonstration of great value to the State in the dairy industry places a clear obligation upon the State. Dairy success today is only attainable by the most complete understanding of materials and methods and the most effective protection against impurity, sophistication and fraud. These results can only be accomplished by the most patient investigation in the search for new truth and the most effective instruction of all concerned, so that all work shall be done in the full light of the latest knowledge. The State should make a liberal provision for dairy statistics, and the enforcement of the laws for dairy sanitation and bovine health, upon which dairy progress is clearly seen to rest, and for which other States have used public money freely with the most significant results and most enthusiastic popular approval. The value which the dairy industry now presents to the State is but a fraction of what it will present in the future, and the resulting benefits will be widely distributed. Dairy ownership, dairy labor and dairy commerce will all be enabled to contribute more largely to the prosperity and stability of the State, according to the degree in which State aid is generously given and wisely expended in the interest of local dairy development and progress.

Stirring the cream frequently will make more butter.

Too heavy salting destroys the flavor of good butter.

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DAIRY NOTES.

Pack as soon as possible after salting if you want to keep butter.

If you want the flow of milk to keep up always milk clean.

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Milking in a foul smelling stable or yard imparts an injurious taint.

In salting butter the taste is considered more than the preservation of the product.

The best cow is the cow which can make the most butterfat or milk out of a dollar's worth of food without impairing her vital forces.

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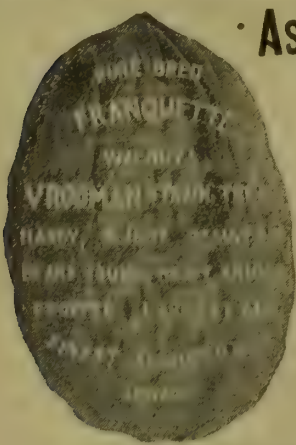
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Deciduous Fruit Culture

IRRIGATED FRUIT.

The desirability of irrigated fruits for qualities which appeal to the fruit eater and for characters which win the first trade has long been attacked and the prejudice against irrigation from these points of view has been outspoken. This prejudice still exists in the minds of those who have not had opportunity for comparative judgment and no experience with properly irrigated fruit. Of course, theoretically the best fruit must come from a tree having plenty of moisture during its growth period. Too little water for such perfect growth would injure the fruit and too much water might also injure it, but we have never encountered such a condition in the arid region where evaporation is so pronounced that it readily overcomes any overdraft of water that may be taken in at the roots. Still there have been prejudices against irrigated fruit which have been slow to disappear even among fruit growers who might be presumed to have the best opportunities for speedily reaching sound judgment in the matter. The first striking characteristic of irrigated fruit to attract attention is the unusual size and this sets up envy among Eastern growers who have to compete with it. Moreover, the size is unmatched by richness and flavor and therefore, all this talk against the quality of our fruit is only the vaporings of a prejudiced mind. As a matter of fact the vast army of consumers knows nothing about the quality of fruit and such people buy it on sight alone.—Denver Field and Farm.

TO PLANT SEED APPLES.

Seeds of apples and similar fruits grow best if mixed with moist sand soon after being taken from the fruit. Hard drying weakens them very much. Early in the spring they may be sown thinly in rows three feet apart in good, well-enriched soil, covering about one inch deep. Cultivate very carefully after the seedlings come up, and keep the soil mellow until August. Thin to two or three inches apart as soon as the second pair of true leaves has formed.

Next spring they may be transplanted to similar nursery rows, setting them about eight inches apart. Good cultivation should be maintained for a season or two longer, when the trees should be large enough to plant out in the orchard. As they come into bearing inferior varieties may be top-grafted or budded with better kinds.

While in the nursery rows all branches and sprouts, as they start up, should be trimmed off to the point it is intended to form the head. If it is intended to raise seedlings for root-grafting proceed in the same way, except that the roots should be taken up one year after planting the seeds and grafted in the usual manner with desired varieties, it being preferable to take the scions from bearing trees.

KEEPING QUALITY OF APPLES.

The behavior of different varieties of apples in storage is a matter of vital importance in the handling of the commercial crop. The length of time that apples may be expected to keep in merchantable condition is of special interest. The following general principles are fairly well established:

1. Apples grown in a northern latitude or high altitude will keep longer than apples of the same variety grown further south or at a lower altitude.

2. Apples from old or mature trees will keep longer than the same varieties grown on young trees.

3. Fruit from sandy soil will usually keep longer than the same sorts grown on clay or loam.

4. Well colored, well ripened fruit will keep longer in good condition than fruit not fully ripe. This is subject to possible slight exceptions in the case of fruit grown on young and very vigorous trees.

It has been fully proved also that the manner in which the fruit is handled has a great deal to do with its behavior in storage. The fruit should be carefully handpicked, handled the least possible, and placed in storage at the earliest moment. The common practice of allowing apples to lie in piles in the orchard for several days or even weeks is especially reprehensible.

GOOD GRAPES.

Many northern irrigated valleys can grow apples, peaches and plums equal to the world's best. But the grapes which won the first prize over all competitors (exhibit open to the world) at the St. Louis Exposition were grown in the Lewiston-Clarkston valley. Black Hamburg grapes, such as are grown under glass in the East, and bring \$6.00 the pound at Christmas, are easily grown out of doors in this sheltered valley. Such varieties as the Flame Tokay, Malaga, Muscat, Cornichon, Sweetwater, etc., there yield enormously, crops of ten to twenty tons being common, and one grower claims 35 tons as a yield of one acre. Small wonder then that a profit of \$500 per acre is an easy trick from vineyards in Lewiston-Clarkston valley. Dr. N. G. Blalock, the foremost fruit expert in the State of Washington, freely admits that no other northwestern valley can compete with this valley in grape culture. These statements are deduced from a handsome, illustrated pamphlet on Grape Culture in Lewiston-Clarkston valley, by Robert Schleicher of Lewiston, Idaho, vice-president of the Idaho State Horticultural Society.

WHAT "OFF YEAR?"

After reading the following from The Denver Field and Farm, we imagine California orchardists will inquire "what off year?"

With all the disappointments, which have befallen the business of orcharding this year it may be said that the seeming misfortunes are proving something of a blessing after all, for the general conditions of the trees were never better than we find them today. The trees have had a good rest and are carrying a full complement of fruit buds for a big crop next year. With a soft winter and favorable early spring weather we are expecting to surpass all previous records. The best reward that we can see as a result of the off year, is contained in the fact that millions of codling moth larvae have been destroyed, because they have had nothing upon which to feed, and this redeeming feature to our notion is a blessing in disguise.

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OPENING OF ANOTHER PEAR BLIGHT CAMPAIGN.

PROF. M. B. WAITE, who has spent a large part of the past two winters in California directing work against the pear blight, which has been undertaken by the Department of Agriculture, is again in California and is outlining another season's campaign against this disease. Prof. Waite states that his work this year will consist largely in checking up the work of the past and comparing the success of the work of the last two seasons. In the past two years the work has been largely in the line of practical education, in explaining to the orchardists and the Horticultural Commissioners the manner in which the work should be done and the reasons therefor. In order to accomplish this, the Washington professors who were detailed to the work got out in the orchards with pruning implements and did the work under the observation of the owners and the commissioners. This phase of the work is now ended, and those who are interested in it know practically as much about the means of checking it as their tutors. This winter the principal part of the work will be to ascertain how thoroughly the work of eradication has been carried on and how effective that work has been. Prof. Waite while here will also give much of his attention to the peach blight, which, while differing from the pear blight, has still been serious, and will come under his branch of operation.

ANOTHER WHITE FLY SCARE.

The white fly has been reported from Glenn Co. but from all that is so far known, it is some other form of Aleyrodes, and not the citri. There are a great many species of Aleyrodes in the state, and it is no infrequent thing to find some in their mature form on the orange trees. In this stage the insects of the various species very strongly resemble each other, and it requires close observation and expert knowledge to distinguish between the innocent and the dangerous species. It will be well, therefore, when any of these insects are discovered on the foliage of citrus trees, not to jump at the conclusion that it is the pest, but to have it passed upon before any alarm is raised, for the chances are very strong that it may be one of the innocent species, which, while sometimes found on citrus trees in their mature stage, do not breed on them, and it is in the larval, or scale-like form that the great damage is done by them.

THE FRUIT GROWERS' CONVENTION.

The annual meetings of the fruit growers of the state have become one of the institutions of the fruit industry of California. For thirty years now the fruit growers have met together at least once a year and discussed problems of direct interest to them. People from all of the different parts of the state meet together at these conventions and exchange experiences, talk of the improved methods of orchard work, of best varieties for growing, conditions under which varieties will do best, and the members work together for improved transportation and marketing conditions. Out

of these meetings has already grown the importance of the fruit industry to our state, an industry which is now worth to us, in all its various forms, nearly if not quite \$100,000,000 annually.

The thirty-third convention is to be held at Marysville commencing on Tuesday, Dec. 3rd, and continuing until the following Friday. An excellent programme has been prepared, and all arrangements made for the pleasure and comfort of visiting orchardists, while all the railroads have granted special excursion rates. Fruit growers who miss these conventions lose in many ways, and more than they are aware of.

PAJARO VALLEY APPLES.

It was a tradition in the early days that apples could not be grown in California, yet the Pajaro Valley alone, this season has shipped 1,500 car loads out of the state, and devoted another 500 to domestic consumption. This is but one small part of California, and this has been a short year for the apple crop. Prices have been good, and as in other branches of fruit growing this season, what the grower has fallen short in total output has been compensated for in good prices. California can grow apples, and apples which will equal those produced anywhere. In the cooler coast counties, the light colored apples seem to do best, Pippins, Pearmains, Bellefleurs, etc., while in the higher mountains there are a number of valleys in which red varieties can be grown to perfection. In the hot interior valleys, apples do not give satisfaction, and it was probably this fact that gave rise to the early impression, which has since become a tradition, that apples could not be grown in our state.

FRUIT AND SOIL SPECIAL TRAIN.

Arrangements have just been completed for the running of a horticultural and soil improvement special train over the Baltimore, Ohio and Southwestern Railroad, in Indiana, about November 19-22. This movement is the result of co-operation of the B. O. & S. W. R. R., Purdue Experiment Station and the Indiana State Horticultural Society. The train is to be equipped and operated by the B. O. & S. W. R. R., while the lecturers will be furnished by the experiment station and the State horticultural society. Stops of one hour will be made at all the important stations, and talks given on the various lines of work. That part of Southern Indiana through which the train will pass is especially adapted to fruit growing, and an effort will be made to point out ways by which the average farmer can profitably engage in the business. Along soil improvement lines, information will be given on the value and use of commercial fertilizers. In this connection the results of experiments conducted in Southern Indiana will be presented.

NATIONAL COMMISSION MEN.

The sixteenth annual meeting of the National League of Commission Merchants will be held at the De Soto hotel, Savannah, Ga., January 8th, 9th and 10th, 1908, for the election of officers and the transaction of any business that may come before the meeting.

An invitation is extended to the publishers of fruit and dairy produce papers, as well as to officers and members of all associations interested in, and to shippers of fruits, vegetables and dairy products, to attend and become acquainted with members.

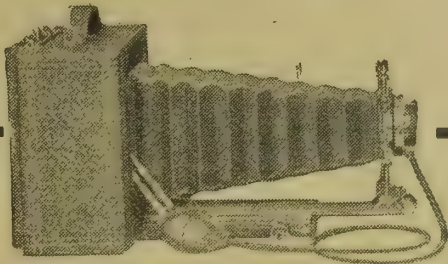
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The Ornamental Garden

THIS MONTH.

THIS is a planting month. Many trees, shrubs, trees and seeds may be planted. Any bulbs not planted last month should be planted now. That is, excepting gladiolus or others of the class which may be planted nearly any month in the year. But freesias, narcissus, Japanese and Easter lilies, amarillis, etc., should be planted at once.

Roses may be reset now, unless it is the most tender varieties. Where roses have become dormant, cuttings may be made. Many roses root readily from cuttings and will grow and produce some bloom the first year. It is a satisfactory way of enjoying the rose garden where one is unable to buy the rooted plants in pots.

In sections where frost is not heavy, deciduous shrubs, evergreens and vines may be planted. Plant salvias, carnations.

Nearly all annuals may be planted; pansies, stocks, sweet peas, phlox, mignonette, candytuft, alyssum, cosmos, etc. Thoroughly protect tender stuff.

GLADIOLUS.

The large planting of gladiolus should probably be made in the springtime, but some which are taken up early may be planted at any time. In fact, they may be planted any month, but as they do so well during the hot months the spring planting is generally preferred.

It is to be hoped that you have procured enough bulbs so that you can experiment with them in a different way than by planting them all in a long, straight row. If you will mass a number of bulbs in columns of from five to nine, each color in a clump by itself, I am sure you will declare that the gladiolus is a much more satisfactory flower than you have heretofore found it.

The flowers lose their individuality when a great number of them are planted together in a long row; but when properly massed each different kind will not only show off well by itself, but will also add to the charms of its neighbors. Of course, when you have some especially choice varieties you may want to plant them by the back door, or by the front door, where you can keep an eye on them; but otherwise the different kinds look better when the colors are combined in picturesque harmony. A stake driven into the ground in the center of each clump will support the stalks, if tied to it with twine.

If you plant the bulbs in a row drive a stout stick at either end and string a wire or strong cord from one to the other. Then the spikes may be tied to this, where it passes in front of them, and they will be held gracefully, but firmly in place. Plant the bulbs about four inches underground. They can be planted nearer together in masses than otherwise—about three or four inches apart, according to the size of the bulbs. The ground should always be rich and mellow. Do not expect the gladiolus or any similar plant to do its best in poor, worn out or badly drained soil. Water, mulch and attention should be frequently and thoroughly given.

PHLOX SUBULATA.

The old time favorite, known as moss pink, never seemed more lovely than when I found it in full bloom in a rural cemetery. So thickly did the plants carpet the ground it was impossible to step without crushing them, and the rosy pink blossoms beautifully adorned the last resting place of the sleepers. Some fond hearts years ago planted the pretty flowers in the old part of the cemetery, and there they now reign supreme. Friends no longer come to adorn the graves, but the little phlox makes them all beautiful.

I know of no prettier plant for the cemetery, and it is equally attractive in the garden where an edging is desired. Several distinct varieties are now obtainable. Alba, with pure white blossoms, makes a pretty contrast to the pink variety. The Bride and Nelson have white flowers with dark markings around the center, and the Vivid is a beautiful bright shade of pink. The Bride produces a mass of blossoms which cover the plant so completely that no foliage shows.

All these varieties are perfectly hardy, even in exposed situations, and all are easy of cultivation. When grown in a mass they are very showy.

HAVE A HOBBY.

It is usual for a man while carrying on his regular business to seek some relaxation from the daily routine. He becomes interested in some scientific problem or branch of work entirely outside his own profession in which he finds rest and recreation. So he leaves the main track for a run over the branch line, landing among his favorite haunts cultivating a hobby.

My little hobby has been growing bulbs, and they have had a special interest for me, ever since I was rambling over the foothills and valleys in search of the wild ones.

CANNAS.

Cannas are deserving of general planting, especially with the gardener who cannot give best and constant care to the more tender plants. The canna will stand neglect and yet give a color to the garden which few others will. Especially is this the case with scarlet low-growing ones, which all the summer through insist on showing a mass of red against the dark green leaves, which makes a beautiful contrast.

Stools may be divided now; in fact, at most any time of the year.

Coleus in red, brown or yellow lend a color relief, and they can be kept cut down to any desired size. The coleus does best in full sunshine.

The fuchsia is a grand subject for planting on the shady side of a house, or ferns can be used effectively on the north side. They always give a charming effect of coolness and retreat. A home nestled in ferns somehow is much more homelike than the same place would be set in glowing scarlet geraniums.

In preparing to plant care should be taken to dig the soil deeply and to give a supply of well rotted manure if it be available.

In addition to a well-executed general planting plan the successful development of a place depends on the preparation and fertilization of the soil, the pruning and planting of trees and shrubs, and the making and maintenance of a greensward.

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The Vegetable Garden

THIS MONTH.

THE hardier vegetables may now be planted and every garden should be supplied with these economical and desirable additions to the table: Plant peas, carrots, turnips, radish, beets, spinach, Swiss chard, onions, lettuce, leeks, rhubarb, kale, collards, cabbage, etc. Also get ground in condition for a succession next month. Spading in deeply well-rooted manure and allowing land to stand a few weeks will put it in fine condition for later planting.

FERTILIZER FOR TOMATOES.

In conclusions deduced from experiments at the Idaho experiment station we note:

Plants treated either with nitrate soda in most cases with sulphate of iron gained nothing the first year earliness over those untreated, whether pinched or unpinched, nor in total production of fruit for the three pickings. The number of rotten tomatoes was greater where sulphate of iron was used. In every case the unpinched plants gained in earliness over those pinched. The apparent lack of results from the use of fertilizers is believed to be due to the fact that the ground was already rich enough in natural food elements. In general, the results of the experiment are summarized as follows: Fertilizing good ground in Idaho seems unnecessary. Pinched plants grew fewer tomatoes than the unpinched plants. Sparks Earliana out-yielded all others in earliness and amount of yield for three pickings, followed by Nolte Earliest, Maule Earliest and Idaho.

The experiments for western blight were continued, particular attention being paid to water, manures and shading from sun and wind. On the evidence secured, the opinion is given that good plants set in good soil, well watered, and above all protected from the hot sun and heavy winds, will not blight very much.

POTATO SPRAYING EXPERIMENT.

In order to determine the actual loss under ordinary farm conditions spraying experiments have been carried on for the past three years in the principal potato-growing counties of Wisconsin. In 1905 experiments were conducted on 3 areas of 10 acres each in which 5 applications of Bordeaux mixture were sprayed at a cost of \$3.70 per acre, the net gain in product ranging from \$15.50 to \$36 per acre. In 1906 another series of experiments was carried on in which the average gains on 4 fields expressed in yield per acre, the increase with 6 applications being 18.9, 47, 29 bu. per acre, respectively.

WATERING LETTUCE.

Experiments at the Wisconsin station were conducted with lettuce grown in greenhouses to determine the advantages of the delative value of subirrigation as compared with surface watering. Two crops of lettuce were grown. The first crop was harvested from January 15 to 31 and the second crop from April 2 to April 10. In summing up the results from both crops it was found that the surface watered bench yielded nearly 100 lbs. more lettuce than did the sub-irrigated bench, or a difference of ap-

proximately 600 lbs. for a house 20x100 feet. Judging from these results with proper care as large crops can be produced with surface watering is more than offset by the difficulties and cost connected with the subirrigation system. The relative effect of these two methods of watering on the control of rot has not yet been sufficiently studied to warrant a statement.

THE SUPERLATIVE RASPBERRY.

Regarding the Superlative Raspberry, of which a fine illustration appears on the first page of cover, we quote from the statement by its propagator, Mr. A. Mitting of Santa Cruz.

"Too much cannot be said in favor of the Superlative. It is a red, sweet, berry, three times as large as any other variety of raspberry to my knowledge, and is almost as large as the Red Logan in size. It is the largest cropper of any raspberry in cultivation, being a continuous bearer from May until November. On one cane at one time I counted 472 berries of different sizes. Just think of a sweet raspberry as large as the Logan and a continual cropper! Do you know what it means? It means there will be a greater demand than the supply of plants and fruit. Every nurseryman and fruit-grower will want heavy shipments for their own planting. In all my experience I never saw such an opportunity to make money,—besides giving satisfaction both to the buyer and seller on the Pacific Coast for years to come. The berry is firm and a good shipper. I received from the introducer in Europe last spring 5,000 plants, and those that lived, as they were three months on the road, gave an abundance of fruit all summer. I shall also receive 5,000 more plants in December."

A reader in the Canon City district wants to know if there is anything tangible in the business of propagating new strawberries and we will try to tell in a few words what we think about it. Strawberries do not come true to seed. Fifty or more plants may be raised from the seed found in a single berry. When these seedlings come into bearing no two will be exactly alike. Some of the plants will bear fruit very small in size and perhaps of inferior quality. Upon others the fruit will be very small but of excellent quality. Upon still other plants the fruit may be of large size but lacking in quality, firmness or other necessary characteristics. Some of the varieties that are best in quality will have fruit so soft that they cannot be shipped, hence they are worthless for market purposes. Other plants will bear fruit desirable in every respect but the plants will be unproductive. Finally, some plants will be admirably adapted for market use but upon trial elsewhere will be found of local adaptation only, the plants being productive only upon certain soils and in certain districts. Out of thousands of seedlings perhaps only one will become a standard market variety. It is probably impossible to secure a type that is cosmopolitan enough to be adapted equally well to all soils and localities. We personally know of but two men in Colorado who ever succeeded in producing a presentable variety and they are both dead.—Field and Farm.

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H. A. PERKINS, Manager

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C. B. MESSENGER

Associate Editor

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AGRICULTURE KING.

Secretary of Agriculture James Wilson has completed his annual report for 1907. He makes a stupendous showing, unequalled by any previous year in the history of the American farmer. The report shows that the total product of the farms for 1907 is valued at \$7,412,000,000, and in stating this remarkable fact he calls attention to the still more amazing one that the farm sustains most of the great export movement, for while all the other products in export exceeded the imports by only \$2,500,000 in favor of this country, the farm products in export exceeded the imports by \$444,000,000. So, as the Secretary of Agriculture says in detailing the \$1,055,000,000 of exports: "The farm is the basis of all National prosperity."

The report notes but one failure in the various crops raised by the farmers, and that is in oats, which fell greatly below the average. There were small declines in wheat, tobacco, hops, flaxseed and buckwheat, counter-balanced by increases above the average in cotton, hay, barley, rye, rice and potatoes.

Corn heads the list with the total production of 2,552,732,000 bushels, valued at \$1,350,000,000, or 26 per cent above the average value of the previous five crops. Other productions of the farm come in the following order: Hay, \$660,000,000; cotton, \$650,000,000; poultry and eggs, \$600,000,000; wheat, \$500,000,000; oats, \$300,000,000; potatoes, \$190,000,000; dairy products, \$200,000,000; barley, \$115,000,000; alfalfa, \$100,000,000; sugar beets, \$45,000,000; tobacco, \$67,000,000; sugar cane, \$28,000,000; flaxseed, \$26,000,000; rye, \$23,000,000; rice, \$19,500,000; buckwheat, \$10,000,000; hops, \$5,000,000.

The report pays more attention to alfalfa than to any of the other products of the farm, for the reason, as the secretary states, that experiments are still being made in its cultivation. He says:

"Alfalfa, that extraordinary plant for producing wealth and doing wonders to farms, is occupying an important place in the plans of the Department of Agriculture, the experiment stations and the agricultural colleges. Through their efforts largely it has rapidly gained success in cultivation throughout a vast area. The value of the crop as hay this year is supposed to be \$100,000,000, and if the plans and efforts now under way to promote its extension receive a reasonable reward the value of the future crop will be several times the present amount."

Noting that the production of beet sugar this year is about 500,000 pounds more than last year's output, the Secretary says:

"The beet sugar industry has grown very rapidly during the past fifteen years. In 1902 the beet sugar factories turned out 13,460 short tons of refined sugar; in 1907 the estimated product reached 500,000 tons. So profitable has the growing of sugar beets proved that sugar beet farms of the medium sort increased in value \$42.49 per acre from 1900 to 1905, as determined by special investigation by the Department of Agriculture, or from \$99.47 per acre in 1900 to \$141.96 in 1905."

The Bureau of Soils, dwelling upon alkali land, has this to say, particularly of California:

"Demonstration experiments on all the various kinds of alkali land found in the arid West have shown that the farmer need no longer dread alkali, but that such land can be easily reclaimed and made productive. The alkali problem has been satisfactorily solved and is, in reality, not as serious as many of the soil problems confronted by the Eastern farmer. Special study of the viticultural soils in California has shown that there is a direct relation between the soil and the color, yield and commercial value of the grape; that there are large bodies of soil very well adapted to various kinds of grapes and that the grape industry can be greatly extended in many parts of California."

"Soil surveys and special study have shown that there are large areas of soils in California that are particularly suited to rice culture and that the introduction of this crop will prove a boon to farmers owning such land that has hitherto been held to be of low agricultural value."

In closing his remarkable resume of the products of the farm for 1907, Secretary Wilson congratulates the American farmer that in the grand total income from his crops, he finds himself in vastly better financial condition than ever and truly the ruler of the Nation, for he is its real financial king.

USE OF OLIVE OIL.

The olive has been applied for various medicinal purposes since old Rameses I held sway over his dark-skinned subjects in Northern Africa. In the days of ancient Rome the leaves and bark of the tree were used by the remarkable medical experts of that time to allay and cure violent attacks of intermittent fever, while the resinous gum which exuded from the tree in the hot season was used for many of the ills to which flesh is heir. The oil of the olive itself later was used by the Roman athletes to soothe their heated bodies after indulging in heroic attempts to break the early records for 100-yard dashes and putting the discus or shot. Then the oil of the wild olive was employed as an extraordinary panacea, guaranteed to stop the ravages of all ailments. Last of all, in more modern times, the women of our own day use the olive oil in the form of soap to beautify the complexion by softening the pores and nourishing the skin itself.—The Great West.

Many subscribers of the Cultivator will remember J. Fletcher Brown a solicitor for this paper. He has called upon many of our patrons, up and down the State and won the respect of all. While working for the Cultivator, at Healdsburg, on Monday, he died suddenly, his body being found in a peaceful pose in his bed Tuesday morning. Heart failure was doubtless the cause. Prior to his work for the Cultivator Rev. Mr. Brown was a minister of the gospel and was most highly esteemed by all.

Shop Talk

The circulation manager of the CULTIVATOR uses this little Shop Talk column each week for his announcement to the readers, and he wishes you to notice it each time. There are sure to be things of interest to you. Since taking off most of our traveling agents, we must do our talking through this column.

"There are very few readers who are sorry that they listened to the agent when they subscribed and are now more than willing to say a good word for the paper."

In our issue of November 14th we offered to new subscribers the balance of the year free. Many saw that and told friends to order. That is still in force, as is our next offer on the 21st which was the Christmas Offer in which old subscribers could make a present of a year's subscription to relatives and friends, and receive credit for three months on their own account. On this we expect many orders before Christmas, or any time until the end of the year. The order blank for this offer is to be found on page 554, so you can look it up.

Last week had to do with clubbing rates, about which we should receive many inquiries. Just write us for clubbing price on the CULTIVATOR with any magazine or papers you would like to have. For instance, note the following:

American Magazine	.....	\$1.00
Scribners	.....	3.00
Cultivator	.....	1.00

Total \$5.00

ALL FOR \$4.00

Munsey	.....	\$1.00
Review of Reviews	.....	3.00
Cultivator	.....	1.00

Total \$5.00

ALL FOR \$3.00

The World Today	.....	\$1.50
Success	.....	1.00
Cultivator	.....	1.00

Total \$3.50

ALL FOR \$2.00

The above is with the supposition that you are now a CULTIVATOR subscriber and take this way of renewing. For new names we will make the price 10 cents less on any club.

So read the whole paper, but be sure and read this column and when you have an opportunity or your subscription is about to expire, take advantage of some of these offers.

To any who feel that they would like to act as an agent in their locality, will say that we would like to correspond with you. We are going to establish local agencies in California, Oregon and Arizona, and to such as can give reference and care to take time from their other work to make our collections and hustle new names for us, we will make an attractive offer. Write in and we will tell you about it.

RURAL CARRIERS AND GOOD ROADS.

The Rural Letter Carriers' Associations in several States have begun the agitation of the question of good roads among the people, with a view of educating the masses on the need of better highways throughout the States. We all agree that the rural carriers know a lot about bad roads for they travel them daily 313 times a year, in all kinds of weather. That is, where the route is a daily one, and they realize the difference between well made roads and roads that are not made at all.

In a recent convention of good roads advocates, one rural carrier voiced the sentiment of the country, it seems to us, very clearly, in the following instance:

"We need education along the line of systematic road building and the proper administration of our road funds; in fact, we need less politics and more brains, less play and more work, less guessing and more engineering, and we can soon travel on our roads instead of in the roads."

When this crisis is over, the bank depositor who has been denied his money will be looking for a place to deposit it in good farm land. Remember what we say, farm lands have increased in value by this financial flurry from \$5 to \$10 per acre all over the country.

Agricultural Notes of the Pacific Coast

Northern California

Watsonville claims a seedless squash.

Tomato season ended at Healdsburg last week.

Butte county olives are bringing \$50 to \$60 per ton.

Two cars of oranges are being shipped daily from Palermo, Butte county.

Grass Valley milk men have raised their price of retail milk to ten cents per quart.

Maywood Packing Company is running to its fullest capacity on ripe pickled olives.

Nearly every farming section of the State reports the pest of hobos to be very perplexing.

Grape planting in Mendocino county is receiving a greater impetus this year than for many seasons.

Improvement Club of Vacaville has organized to make war on weeds on vacant lots and road ways.

The Vacaville Reporter says that this has been the most profitable season in that section of the country.

Weaverville had a drop of the thermometer last week, Monday morning, when 20 degrees were registered.

The Winters cannery has been compelled to close because the cool weather has delayed the ripening of tomatoes.

Prices paid by the Humboldt creameries during November ranged between thirty-three and thirty-nine cents.

With only two to two and one-half cents offered for last year's hops it looks as if the hop market is pretty nearly a dead one.

In Mendocino county there are now over three thousand bales of last year's crop and five thousand bales of this year's crop.

The Butte county orange growers are expecting to receive at least \$400,000 from their shipment of six hundred cars of oranges.

One hop buyer in Healdsburg purchased fifteen hundred and forty-two bales of new hops at a price ranging near seven cents.

The report that the work would cease on the Central Irrigating canal in Colusa and Glenn counties is now said to be erroneous and work is continuing.

The apple shipping season at Sebastopol closed last week after a run of four months and ten days during which seventy thousand boxes were packed.

The total shipments of green fruits from Vacaville this year have been six hundred and forty-five carloads as against six hundred and seventeen last year and eight hundred and fifty for 1905.

The Sonoma county Grange served a fine feast and had a pleasant time at Bennett Valley last week. This Grange will hold quarterly meetings at Santa Rosa the third Wednesday during January, April, July and October.

Central California

Lindsay has an arbor club.

The Merced is being stocked with Rainbow trout.

Lindsay has shipped about one-third of her citrus output.

Louis Clark of Visalia netted \$450 per acre from his potatoes.

The San José Grange held appropriate Thanksgiving exercises.

The first oranges of Mt. Campbell, Fresno county, netted \$3 f.o.b.

Exeter is growing grapefruit twenty inches in circumference.

Fresno proposes to maintain a citrus fair during the entire month of December.

The Hanford Sentinel claims that Kings county will soon be "some" on olive production.

About three hundred cars of oranges were shipped up to the end of November from Lindsay.

The farmers at Hanford have formed a mutual telephone company with forty-five charter members.

The Morse Seed Company has sixteen hundred acres of land plowed near Gilroy, on their seed farms.

At one time in Lindsay packing-houses there were ninety-nine cars of oranges held awaiting cars for shipment.

Many of the raisin seeding plants of Fresno are closed and the men idle, and will not reopen until prospects are better.

It is estimated that over \$60,000 will be brought to Porterville, Lindsay and Exeter as the result of one trainload of oranges.

A big weir is being constructed by the Lemoore Canal and Irrigation Company. It is over two hundred and sixty-seven feet long.

One train of sixty-eight cars of oranges from the Porterville, Lindsay and Exeter section was shipped East by way of Ogden last week.

It is estimated that the plans on foot for irrigating the Salinas Valley will require an aggregate of over three and one-half millions.

The bean crop about Gilroy was lighter than usual this season, but the beans were harvested in good condition and brought good returns.

The Salinas Index says that the tonnage of beets passing through the factory there this year is only about one-third the capacity of the factory.

The San Jose Grange, at its recent meeting, discussed the peach borer and listened to a paper on that subject read by County Entomologist Morris.

Kings county fruit growers who sold their fruit before the recent flurry, but did not receive money for some time, are now feeling easier that payments are being made.

The famous Riverside Dairy and Stock Farm located on Rough and Ready Island, belonging to Pierce brothers, has been discontinued and the prize-winning stock disposed of.

A mass meeting of orange growers at Lindsay last week made an appeal to the Interstate Commerce Commission at Washington to investigate and afford relief if possible in the refrigerator car shortage.

Southern California

Riverside claims a seedless apple.

Ventura county nuts are all gathered.

Great increase of alfalfa in Perris is noted.

Orange shipping began at Highlands last week.

Orange has a Farmers' Protective Association.

Arlington Heights-oranges are being shipped to England.

Two new melon sheds are being constructed at Brawley.

Fullerton will receive \$200,000 from her walnut crop this season.

El Monte has a pumpkin which weighs exactly one-eight of a ton.

Erwindale claims strawberries five and one-half inches in circumference.

The irrigation season closed with the great Bear valley dam full to the brim.

The peanut and chili dryer destroyed by fire at Tustin will be rebuilt as soon as possible.

Riverside claims two pumpkins with the combined weight of two hundred and ninety pounds.

It is estimated that the citrus growers' share of last year's oranges will aggregate \$23,000,000.

Imperial Stock Breeders' Association will hold a colt show at El Centro the first week in December.

Redlands Golden Orange Association is endeavoring to secure white orange pickers and dispense with the Japs.

Oranges are turning in color quite rapidly and the output for the holiday trade will probably be quite large.

The tomato crop at Fullerton was injured by blight caused by the recent storm to the extent of over \$30,000.

Five hundred acres have been signed up for membership in a new cantaloupe-shipping organization at Imperial.

Prof. P. J. DeVries, engineer of public works of the Dutch Indies, is in Riverside investigating matters of irrigation.

The Imperial Valley creamery paid thirty-seven and one-fourth cents per pound for its butter fat delivered during October.

Rialto Orange and Lemon Growers' Association has signed up eight hundred and fifty acres of oranges for next year's output.

Tustin peanut men are in the midst of the harvest which has been found to be injured less by the early rains than at first anticipated.

Fruit growers near Lancaster have become exasperated because stock has been allowed to roam at large and are now engaged in impounding all stray animals.

Both the Thermal Cantaloupe Growers' Association and the Coachella Valley Producers' Association have signed contracts to market their melons through one Chicago firm.

The Oxnard sugar factory crushed one hundred and thirty-five thousand tons of beets this season. The average was eighteen per cent. The amount paid to the growers was nearly \$1,000,000.

The Coast

Potatoes and onions will bring Oregon a million dollars this year.

Farmers at Corvallis, Or., are planting larger areas of apples this fall.

Portland has raised \$52,000 to finance a live stock show next fall.

Thousands of acres are being reclaimed from the river at Newport, Wash.

The fall crop of strawberries at Wenatchee proved exceedingly profitable this year.

A half-million dollars will be received for fruit from the Coeur d'Alene, Idaho.

Dayton, Wash., has shipped twenty thousand boxes of apples to New York this season. •

The Montana Dairymen's Association will meet at Great Falls, December 17th and 18th.

Fall seeding of wheat is rapidly proceeding at Walla Walla, Wash., since the recent rain.

The Spokane Valley produces \$375,000 in fruits and vegetables entirely as a result of irrigation.

Yakima hay growers have been shipping alfalfa to British Columbia and finding a good market.

A Wenatchee farmer maintains that he can grow his potatoes at the tops instead of at the roots.

First snowstorm of the season raged during the last week of November in Davenport, Wash.

Great quantities of grain are stored at LaCrosse, Wash., which cannot be moved because of lack of funds.

Forest rangers of Idaho met at Delta recently and discussed rules and regulations promulgated by the service.

The recent wool growers' convention held at Dalles, Or., voted to hold the next convention next fall at Heppner.

A severe thunder shower visited Astoria, Or., last week, doing some little damage by burning barns and some hay.

A heavy rain at Pullman, Wash., during the last week in November has relieved the prolonged drought and stopped all farm work.

The fifteenth annual international convention of the Northwest Fruit Growers' Association is being held in Vancouver, B. C., this week.

One hundred and seventy sheep and cattle men met recently in Wenatchee, Wash., to secure allotments of grazing permits for 1908.

The turkey market at Portland, Or., took a severe slump immediately before Thanksgiving. The top notch reached was seventeen and one-half cents.

A large number of farmers in Northern Idaho have banded themselves together to beat the warehouse trust and are building their own warehouses.

Large pumping engines are now being installed at Miles, Wash., by the Spokane River Land and Development Company. The plant will cost about \$7000.

The car shortage at Walla Walla, Wash., which was so embarrassing in the moving of crops has been relieved only to find the money shortage still more perplexing.

PER
2 BUSHEL
SACK

\$1.90

PER
2 BUSHEL
SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Hazardous feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

Petaluma Incubator Co.

Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

Beef Scraps Raw Bone

GUARANTEED ANALYSIS:

Protein65%
Fat8%

Made of Cooked and Dried Livers, Lungs, Melts and Clean Scraps. No fertilizer ingredients in these Beef Scraps.

GUARANTEED ANALYSIS:

Protein25%
Phosphates45%

Made of Clean Beef Bones, surplus fat removed. Cleanest Raw Bone on the Market.

Pure, Clean Animal Matter Poultry Foods

WESTERN MEAT COMPANY SOUTH SAN FRANCISCO CALIFORNIA

FERN PARK POULTRY RANCH

EGGS FOR HATCHING

All Eggs are from good, strong vigorous stock.



WYATT & WOLLITZ, Proprietors

—Breeders of—

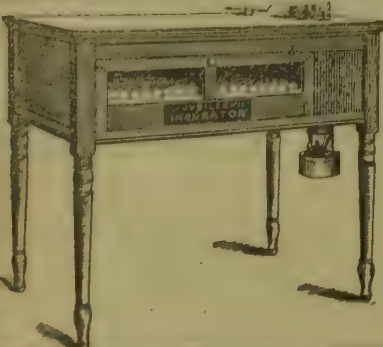
Single Comb Buff Orpingtons
White Rocks and
Indian Runner Ducks

Orpington and Rocks \$2 per setting; \$6 per 100.
Duck Eggs \$1.50 per 12.

Write your wants. Correspondence carefully answered.

Box 298.

WYATT & WOLLITZ, Corona, Cal.



The Jubilee Incubator Co.

HAS A BIG SURPRISE FOR
THE POULTRY FRATERNITY

SUCCESS NOW ASSURED BY USING
The Jubilee

We have something new for you. Send us your name to place on list for Catalog "J" being issued.

Jubilee Incubator Co., Sunnyvale, Cal.

Beef, Blood and Bone Will Make Your Hens Lay

This is not a medicine but a high grade nitrogenous food. Write for free booklet "How to make Hens Lay." Our Poultry Foods are sold by all local dealers and manufactured solely by

The Pacific Guano and Fertilizer Co., Indiana and Yolo Sts., San Francisco, Cal.

Also Pioneer Manufacturers of High Grade Fertilizers.

Write for our free booklet, "Farmer's Friend." Valuable to all farmers and ranchers.

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experiences with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

FOR THE BEGINNER.

WE receive many letters from our readers asking for information as to construction and arrangement of yards. So will give a short article which may be of some interest to the novice in poultry culture under California conditions. We will consider the arrangement and maintenance of yards and houses.

Now, as the money market is tightening up and there is a tendency to stop speculating in real estate, stocks and mines, we find many, who heretofore had taken little interest in poultry, either from a commercial or fancy standpoint, seeking information along lines pertaining to utilizing the city lot or small ranch for breeding either commercial or fancy poultry.

Soil Conditions.

Let us first consider our land, upon which we expect to locate our houses and yards. If we have to acquire them, we should look for two things; first, the cost, and second, the nature of the soil.

If we have not already our land we should select a sandy loam which is always better than a clay or "dobe."

If you expect to make a living from poultry and devote all your time to its culture, you should have sufficient land to accommodate from 1000 to 1500 birds. In figuring the land and yards for our stock we will give as an example a successful plant situated near Los Angeles, which is neither a cheap, nor an expensive one, so far as houses and yards are concerned.

How Many Per Acre.

The yards are 25x48 feet with a four-foot alley between which uses equal to 25x50 feet of land for each yard. Figuring on the basis, we are able to get forty-three yards to an acre. This, with twenty head to each yard, will give us 860 hens to an acre. According to this, it will be necessary for us—if we are to have 1500 hens, about three acres, as a part will be used for young stock and your feed houses, incubator and brooder house, etc.

The houses on this place were built of shake, with gable roof and no floor, but set up from ground about eighteen inches. These houses were built several years ago and cost, not including labor, about \$2.50 each, size 4x8 feet. The cost will now be some greater as the price of lumber has advanced. The pens were enclosed with five-foot poultry netting and cost about \$5.50 for wire, posts, etc.

Stock and Profit.

The stock kept on this ranch are pure bred White Leghorns and show a clear profit of \$2.25 per hen after allowing \$1.12 per head for feed.

The feed for this ranch was purchased in large quantities, often by the carload, which is an advantage over buying by the 100 pounds.

We should be trying to find out not in what we differ from other people, but in what we agree with them.—Ruskin.

SANTA ANA SHOW.

The Santa Ana Poultry Association gave its first annual show Nov. 25 to 30 inclusive in the opera house block, Santa Ana. It was a success, and a very creditable display of fowls.

The association worked under very discouraging conditions, as the merchants of Santa Ana gave them no encouragement at all. This caused some of the more timid ones to get discouraged, and they left the work all on a few members who, however, proved equal to the occasion and by hard work pulled off a show that is a credit to the boys.

The association rented coops from the Poultry Breeders' Society, likewise its superintendent, Mr. C. Andrews, who very ably cooped and superintended the show.

The largest class in the show was White Rocks, which contained some very good specimens, especially in pullets, the first and second pullet being good. The cocks were also a good class. The Rhode Island Reds was the next strongest class in the show with some extra choice breeds. The first prize cockerel was as good a bird as we have seen at a Coast show. He was splendid in color and good shape, though we thought him a little high on legs and a trifle short in body, otherwise he was a typical specimen and by far the best bird in the class. White Wyandottes, though not a large class, contained some good specimens.

Many of the birds were handicapped by not being up to weight, as at this season it is hard to get them to take on weight. This being a score card show the usual delay was caused in getting the ribbons in place. It is always tiresome to have the show drag through the whole week before the prizes are announced.

We are sorry that we are unable to give a full list of the awards, but when we left were unable to get a full list. Taken as a whole the show ought to encourage the fanciers, as they have the birds and the right spirit. We hope that next year they will have even a larger show than this one.

PETALUMA POULTRY SHOW.

Petaluma, after a number of years, will again have a poultry show, to be held there on December 17th to 21st. The advantages of a poultry show in Petaluma are so many and so obvious, that it is wonderful so many years have gone by since they last held one. It is so long that a great number of poultrymen there have never had the opportunity of seeing a poultry show in their own town. One of the results of this is, that while there are enormous quantities of chickens in Petaluma, there are very few fancy chicken raisers.

With the coming poultry show we predict that this condition of affairs will be changed. The fanciers who show will do an enormous business with the Petaluma poultrymen, both in eggs and stock. Therefore, send

Second Call

The San Diego Show

WILL BE HELD

Dec. 17 to 21, 1907

NOW Is the time to get in line. Cups, badges, cash, ribbons, and other articles of value. Medal and Diplomas from American Poultry Association. Judges Tyler and Meyer will give you an honest score card. Entry fee, 50c; pigeons, 15c.

Make Your Entries Early

Address the Show Secretary for Premium List and Entry Blanks.

H. M. Stiles

1547 H St. - San Diego, Cal.

Imported Aylesbury Ducks

Winners at Crystal Palace and leading shows in England. Also at the State Fair, San Jose and Oakland, 1906. Also State Fair and San Jose, 1907. Stock for sale and Eggs in season.

Vincent G. Huntley

Petaluma, California

Also Breeder of Buff and Black Orpingtons and Barred Plymouth Rocks.

ORPINGTON RESERVATION

ROSS & TATE,
ALTADENA, CAL.
BUFF, WHITE, BLACK
ORPINGTONS.

EGGS—PRIZE WINNING OR BREEDING STOCK
One bird or Fifty—One setting or 1000 eggs that hatch, at prices in proportion to quality. Orders booked now for delivery.

We want you to see our place and birds, and will give you a reduction on purchases if you will call in person, but if you can't come send for our catalog. Worth money, but free. 1 blk. north, 2 east of P. O. P. O. box 125. Altadena, Cal.

Do You want the Breed That Lays

the year around and brings \$1.00 each when sold to market? Our **BUFF ORPINGTONS** are that kind. Write for show record never equalled on the Pacific Coast, Catalogue, and prices.

Mr. and Mrs. W. S. Sullivan
Agnew, Santa Clara Co., Cal.
State V. P. Nat. S. C. B. O. Club.

Spargur's Trap-Nested White Leghorns

Laying Pullets six and seven months old from above hens, at \$15.00 per dozen. Also L. R. Ducks and Drakes at \$9.00 per dozen.

H. G. Spargur, Soquel, Cal.**Newbert's White Leghorns**

Are the best in the State. I proved it at the last State Fair, winning four of the five firsts from the best breeders in the State. Hatching Eggs, \$6 per hundred, \$1.50 and \$2.00 per setting.

F. M. Newbert

Palmetto Heights
Sacramento, Cal

When writing advertisers mention Cultivator

your best birds, and plenty of them.

The judges for the show are Mr. Henry Berrar, of San Jose, and Mr. R. J. Venn, of Fresno, both well-known men, who need no commendation. The premium list has many new and attractive features; firstly, the liberal cash prizes offered, as well as numerous valuable cups. These cups are so offered as to give an opportunity to every breed. As well as the regular classes, there are selling classes, local novice classes and classes for pigeons and a class for eggs.

People, locally, are taking a great deal of interest in the local classes and in the class for eggs, and with the numerous fanciers who have promised to support the show, the Petaluma Poultry Keepers' Association anticipate a very successful meeting.

Any one wishing further information as to entries, etc., can obtain same on application to F. W. Stratton, Show Secretary, Petaluma.

THE START.

As a rule there are two extremes in all kinds of business and the poultry business is certainly no exception to the rule. If you are totally inexperienced and think all you need is to buy a half-dozen incubators and brooders and run them according to directions and get rich in a year or two, be at once undeceived or you will undoubtedly be disappointed. A great many beginners try to raise a thousand or two birds their first season, and if they only get dozens instead of hundreds they think there is nothing in it and give up in disgust the first year. This is one extreme. If you have no ambition to try to do anything and go into the business in a half-hearted way and do not try to get something the first year and all other succeeding years you are following the other extreme and will not be any more likely to succeed than the other way. My advice would be to go a little slow at first till you learn the business and then follow it up as fast as you can and spread out as fast as your profits will justify you in doing. Get a few good old tried and true hens for incubators and brooders the first year, take care of them and let them hatch and take care of the chickens, then learn to handle chickens, buy incubators and brooders, and learn to handle them; they all pay — chickens, incubators, and brooders, when properly handled.—S. W. Stockman.

FEATHERS.

Have patience and do your work well.

Helter-skelter methods mean bad results.

Good management brings success more than any one thing.

Mistakes if profited by often prove blessings in disguise.

Patience is a strong link in successful poultry raising. Try it once.

Look out for lice on the young turkey poults.

In fattening turkeys do not feed the ones you keep for breeding or those too young to fatten as you do the ones intended for market. It will be injurious to them if you do.

Cull out all undesirable hens and send to market now.

Gather leaves and store for that scratching pen.



is the one which contributes 150 eggs or more in a year, toward the family grocery bill. The sure way to have such hens, eggs in abundance, and a lot of ready cash, is to give a little of

DR. HESS POULTRY PAN-A-CE-A

with the morning feed every day in the year. Dr. Hess Poultry Pan-a-ce-a is a tonic, the sole purpose and action of which, is to assist nature in the performance of necessary functions. It aids digestion, prevents disease, and sends the proper proportion of each food element to the organ most in need. It also contains germicides which destroy bacteria, the usual cause of poultry disease. Poultry Pan-a-ce-a is the prescription of Dr. Hess (M. D., D. V. S.), and is a guaranteed egg-producer. Endorsed by leading poultry associations in United States and Canada. **Sold on a written guarantee, and costs but a penny a day for 30 fowls.**

1 1-2 lbs. 35c; 5 lbs. 85c; 12 lbs. \$1.75. 25 lb. pail \$3.50.

Send 2 cents for Dr. Hess 48-page Poultry Book, free.

DR. HESS & CLARK, Ashland, Ohio.

Instant Louse Killer Kills Lice.

THE PETALUMA INCUBATOR CO., Petaluma, Cal., Pacific Coast Distributors.

Poultry Supplies

large stock of the very best goods of all kinds at the lowest prices. Come and see us, or mail your orders, and you will be treated right.

Improved Pacific Incubators

are as good as can be made. Also **PACIFIC COMBINATION BROODER**. And they are priced right, too. We also make the "BUSINESS" Incubators and Brooders. Just for business and they do it everytime. Very low prices for these.

Pacific Incubator Co.

707 So. Spring St.**Los Angeles, Cal.****Ranch Mirasol**

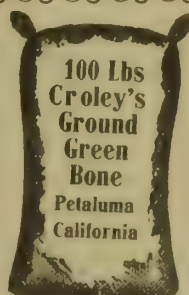
(Lincoln Avenue Poultry Yards)

S. C. White Leghorns---Mitchell Strain**Eggs for Hatching**

Our birds are not the culls and accidents of the fancy breeder, but have been bred for generations for a definite utility type to lay both quality and quantity. They are selected by the Hogan system and mated by Standard requirements. Ready for delivery January 1st. Order books now open.

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is just this and nothing else. It is not a strong tonic and stimulant, but contains enough condiments to give the food relish and keep the fowls in fine fettle. Just a little fed daily with good grains, or even with bran will do it. It can be fed either dry or as a mash. The hens like it, they eat it, there is no waste. It makes the very cheapest Egg Food, especially if you can buy your grains at home cheaper than to ship them in. The cost is but a very small per cent of the increased egg production. 4-lb. package, 35 cents; 25-lb. pall, \$2.00; 50-lb. sack, \$3.75. If your dealer doesn't keep it, we will deliver a pall or sack freight prepaid by us.

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Our fall matings will be made so as to supply eggs by Nov. 1 from some of the finest pens we have ever handled. Eggs, \$1.50 to \$2.50 per 13—\$3.00 to \$12.00 per hundred.

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We can supply eggs after Nov. 1 in any quantity. Stock the best on the Coast. Eggs, \$1.00 to \$2.00 per 13—\$6.00 to \$10.00 per hundred. We have some of the highest scoring fowls of the variety in America. Eggs after Nov. 1. Eggs, \$2.00 to \$5.00 per 13—\$10.00 to \$20.00 per 100.

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Poultry Show Dates

Los Angeles, Cal., Dec. 5 to 14, 1907.—Southwestern Pigeon Club will hold its annual exhibition with the Los Angeles County Association. W. E. Foster, secretary, Fillmore, Cal.

Los Angeles, Cal., December 5-14, 1907.—The Nineteenth Annual Poultry and Pigeon Show of the Los Angeles County Poultry Association Corporation. Comparison judging W. L. Sly, Hollywood, president; C. D. Hubbard, secretary, San Fernando.

Fresno, Cal., Dec. 11-14, 1907.—Tenth Annual Exhibition Fresno Poultry, Pigeon and Pet Stock Association. George R. Andrews, secretary, Fresno, Cal.

Petaluma, Cal., Dec. 17-21, 1907.—Poultrykeepers' Association of Petaluma, annual show. W. Church, president; F. W. Stratton, show secretary. Entries close Dec. 7, '07.

San Diego, Cal., Dec. 17-21, 1907.—Sixth Annual Poultry and Pigeon Show of the San Diego County Poultry Association. George I. Badger, secretary, San Diego, Cal.

Los Angeles, at Chutes Park, Jan. 6-12, 1908.—Second Annual Exhibition Breeders' Association of Southern California. Dr. Winslow, president; H. A. Meserve, secretary. Birds will be received January 1st. Judged by score card and awards read before public is admitted Monday, January 6th.

HOW TO INDUCE FALL LAYING

A little care and additional work and attention with the hens on the place at this season will be well repaid. This is the beginning of the moulting or shedding season, and a good many of the hens are not laying and will not lay for some two or three months under the usual course of neglect and indifference on the part of their owners. And yet, it is possible to get a goodly number of fall eggs if we go at it right.

To induce fall laying, the hens should have a variety of foods—not a great deal of any one kind, but a little of several kinds. For this purpose all the waste of the kitchen and the dining-room should be saved and given to them. The best plan is to have a good-sized pot handy, and throw all scraps into it. Let it sit at the back of the kitchen stove, and at the close of either the breakfast or midday meal, put some oats or wheat into it, with water, and soak all together. It will not take long to do it and then when cooled off some call up the hens and give it to them. It will start them to singing and running about in a happy way, and soon start them to the nest, and keep them laying all through the autumn and fall.

In addition to the eggs this system will bring, it will also keep the hens healthy and vigorous and enable them to shed and re-clothe themselves in new feathers earlier than otherwise.—Rocky Mountain Husbandman.

THE SECRET OUT.

We recently learned the secret of the success of Petaluma as an egg-producing community. It accidentally leaked out through Henry Albers Co., of this city, when they secured an order for 3500 pounds of Lees' egg-maker. This was followed by a hurry up order for 200 palls weighing 25 pounds each. The wise folk from the north know a thing or two when eggs are high.

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LILLY'S BEST POULTRY TONIC

Strengthens the digestive organs, tones up the system, stimulates growth, purifies the blood and greatly increases the production of eggs.

After trial of your Poultry Tonic my egg yield doubled in number, and am so well pleased that I have ordered my grocer to keep it on hand always for me. I deem it indispensable.

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TO ENGRAVE EGGSHELLS.

Make the drawing of any figure or design you please upon the egg in melted tallow or any thick oil. Then immerse the egg in strong vinegar. When the egg has remained for some time in the vinegar it will be found that the parts untouched by the tallow have been eaten away, leaving the design in relief.—St. Louis Globe-Democrat.

Irrigation and Forestry

DIVISION OF THE WORK.

IN VIEW of the fact that Dr. Elwood Mead has been called to Australia to assume direction under government auspices of irrigation work in that country, the secretary of agriculture has divided the work of Irrigation and Drainage Investigations of the Office of Experiment Stations, which Dr. Mead has managed with such marked ability since its establishment in 1898, into two sections. Dr. Samuel Fortier, irrigation engineer in charge of the Pacific district of the Irrigation and Drainage Investigations, and stationed at the University of California, Berkeley, Cal., has been made Chief of Irrigation Investigations. Mr. C. G. Elliot, for several years past engineer in charge of the drainage investigations of the office, has been made Chief of Drainage Investigations. Both of these offices will report directly to Dr. A. C. True, director of the Office of Experiment Stations.

In the irrigation division the three main lines of work will be, as heretofore, dissemination of practical information; scientific and technical investigations and reporting on irrigation conditions in certain districts.

In view of the fact that probably about 5,000,000 acres of land provided with water for irrigation will be available for settlement at the close of 1908, it is believed that in no other way can more good be done than in supplying practical information through publications and expert advice to the new settlers on this land, and it is, therefore, deemed advisable to broaden the scope of this work so as to make it valuable to every class of farmers dependent upon irrigation and to every project whether public or private.

The scientific and technical investigations will be a continuation and extension of what has already been done. Prominent features of the work will be to determine what becomes of the large quantity of water which is annually spread over cropped soils, involving a study of evaporation, seepage and distribution losses, with a view to securing higher economy in the use of water; there-

lation of irrigation water to quantity and quality of crop and the adaption of methods to different soils and crops; and a study of the more technical features of the measurement, conveyance, storage and distribution of water on farms, and the various devices used for pumping.

In the study of irrigation conditions in different localities is to be laid especially on possible improvements of present methods which will lead to a more economical use of water.

The drainage work is to be developed along the following lines already well established: The examination and study of past and current drainage practice with reference to the success or failure of various methods and their use in solving such problems in localities where drainage is an important factor in agriculture. Also the collection and systematic arrangement of known principles and current practice relating to the subject, for the better information of agricultural engineers and others upon whom the planning and carrying out of drainage works devolve.

Also assisting farmers, communities and States in the initiation and direction of drainage improvements.

Furthering the examination and investigation of the more technical problems pertaining to land drainage concerning which there is a lack of information, including investigations to determine the drainage co-efficient of agricultural lands, plans for draining muck lands which border on peat formation, movement and behavior of water in irrigated land, methods of testing cement drain tile, the laws of erosion of ditches and of the sedimentation of ditches and similar questions.

During the past year plans for the drainage of about 2,000,000 acres, principally in States east of the Mississippi river, have been made in the office.

The irrigation and drainage investigations of the Office of Experiment Stations are largely carried on in co-operation with the State experiment stations and the State governments. Several States have made appropri-

tions for this work to supplement the Federal funds.

The irrigation and drainage work of the Office of Experiment Stations is entirely distinct from and supplementary to that of the Reclamation Service of the Interior Department, and does not involve the construction of irrigation works, but rather the study of problems connected with irrigation systems already in use and the giving of advice and aid to farmers.

AMERICAN FORESTRY ASSOCIATION.

The American Forestry Association of Washington, D. C., was organized in 1882, and incorporated in January, 1897.

The object of the association is to promote the preservation by wise use, and the extension of the forests of the United States; it seeks to encourage the application of forestry by private owners to forest holding, and it favors the establishment and multiplication of National and State forests, to be administered in the highest interests of all.

From the beginning the association has stood for practical results. The enactment, in 1891, of the law whereby the president of the United States was authorized to establish, by proclamation, National forest reserves on the public domain, was largely due to its efforts. As National Forests, these "reserves" now constitute an area greater than France or Germany, and equal to that of all the States north of North Carolina and east of Ohio.

Not content with past achievements, the association aspires to increased usefulness. Almost all our National forests are in the far West; others are imperatively needed in the East, notably in the White and Southern Appalachian Mountains. There being no public lands in the East, these forests cannot be "proclaimed; they must be created by congressional enactment. The association is bending its energies to secure such legislation.

That the association may successfully prosecute its work, it needs a larger membership. Its membership now numbers more than 6400, and is found in every State of the Union, in Canada and in foreign countries. Can this be increased to 25,000? It will materially add to the effective-

SMALL FARM MOVEMENT.

How great a revolution has been worked by irrigation in the West is shown in an investigation just completed, covering San Joaquin county, and applying to the whole central valley. In 1900 this county had 1966 farms, averaging 440 acres to a farm. Today the average has dropped to 208 acres, but that does not tell the statistician's whole story. For against 98 farms of less than ten acres in 1900, there are now 362 of this size and 689 farms of less than 20 acres.

Here in a locality where a few years ago farming was on a vast scale, there are now 127 profitable farms of less than three acres each, and 362 less than ten acres. This change is due principally to irrigation, and the subdivision of farming lands into small tracts has brought about an era of intensified and diversified agriculture, resulting in much higher land values, more valuable products and amounting to an insurance against general crop failures. The small farmer pursues more scientific methods of culture and gets so much greater profit per acre from his holdings than the old-style farmer ever received, that he can gain a good living from a very small parcel of land.

This change to small holdings also has the important result of multiplying settlers, for each needs but little capital. What land is required can be bought on time. In a few months the settler is established and within a year has an income from his own property. The profit it is possible for the small farmer to reap in this State explains a mystery of how California can absorb colonists arriving as they did in September, at the rate of 10,000 a month.

THE MAN.

Give me the man who can hold on when others let go; who pushes ahead when others turn back; who stiffens up when others weaken; who advances when others retreat; who knows no such word as "can't" or "give up;" and I will show you a man who will win in the end, no matter what opposes him, no matter what obstacles confront him.

The olive is one of the principal crops of Maywood Colony section.

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No trouble to answer inquirers. Satisfaction guaranteed.

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Orange Lands One to Ten Acres Chicken Ranches Government Land

We will locate you on 160 or 320 acres of fine lands, will raise anything, or sell 120 acres land, good well, two houses, water at ten feet. Price, \$12.50 per acre, one half cash.

See Sly

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Cultivator Christmas Order

1907

CULTIVATOR PUBLISHING CO.,

115½ No. Broadway

Los Angeles, Cal.

Gentlemen—Enclosed find \$_____ for which please send the **Cultivator** to the following until January 1, 1909, stopping same at expiration.

NAME	P. O. ADDRESS	STATE

Also please credit my subscription account three months for each new name above.

SIGNED _____

ADDRESS _____

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Congestion of Brain.

I have a hen that has something the matter with her legs that I am at a loss to know. About a week ago I noticed she acted peculiar in walking. Apt to step sideways or backward as ahead. She grew worse till now she can't use them at all and lies around on her side; by kicking and by flopping her wings can navigate a little. Otherwise, she is perfectly healthy, eats as hearty as any hen. My fowls are all healthy; haven't had one die in the past year.—J. C. C., Santa Barbara.

The trouble is congestion of the brain, and may be caused by over-fat condition or may result from fright, indigestion or by intestinal worms. Treatment: Apply cold water to the head till it is thoroughly cool. Keep the bird in a cool place. Give a dose of two teaspoons of castor oil, and feed principally green food. Give three grains of Bromide of Potassium three times a day, dissolved in a tablespoonful of water.

Plague of Ants.

Will you please publish the following in your valuable paper, to wit:

Will someone kindly tell me what is the best and most effective means of destroying ants in the open field where they have become a menace to trees and plants. The ants which are bothering me and a great many others in this part of the country are small sugar ants, and they infest almost every tree in my grove, work into the new growth on the trees, and sometimes on the harder and more mature portions of the trees, causing a gum to exude therefrom. They are fierce and sting hard. They have made it their business in my pineapple patch to carry and distribute the mealy bug, and sometimes undermine and destroy large pineapple plants and even trees. They are not generally as bad here as they have become on my place during the last two or three months. They seem to have increased since I gathered a crop of corn from among my young trees.—C. R. Newton, San Juan, P. R.

We have never had experience with a case where ants have become such a pest as described by Mr. Newton. Ordinarily we would say use plenty of good California Buhach which will rid a house of them quickly. Whether it could be used in extensive field operations economically we doubt.

Another remedy said to work admirably by one who has tried it on ant hills in lawns, is to mix a heaping teaspoon of powdered strychnine in a pint of sugar. Moisten slightly and spread over top of the hill. The ants carry it down into the holes and in time all disappear.

Let care be exercised that children do not have access to this for it is a deadly poison.

Any suggestions our subscribers may have will be appreciated.

Front Feet in Hole.

Is it good for horses to stand with front quarters lower than the hind quarters when they dig a hollow next the manger by stamping with their feet?—L. L. K.

No. Every animal is more comfortable to stand squarely on its feet as the Creator intended them to do. I have had to stand sick animals

in such positions and they always seemed uncomfortable. I believe every discomfort an animal is subjected to means in the end loss of feed. We know in man that hardships do not strengthen the physical side. Lately, we are beginning to think they do not add to mental strength. If we believe in a God of love we cannot think that he subjects us to discomfort to make us better people.—M. E. S.

Syrup for Stock.

I see frequently in the papers about feeding syrup to stock quoted at \$1.25 per barrel. Where can syrup be bought at that price? Do you recommend it for stock food? Can you give me the address of the briquette factory. I find the Cultivator a very valuable aid and file it away for reference.—W. C. B., Arbuckle Cal.

We do not know as to quotations, but think you can get information by writing your nearest sugar factory which would be, in your case, we think, Hamilton City. Syrup is generally conceded to be an excellent stock food.

If by briquette factory you mean the factory which puts up the briquettes for frost protection, we would refer you to Geo. Griffith, 1130 S. Broadway, Los Angeles.

For the fuel briquettes, your nearest gas company can probably give you information. They are manufactured by the L. A. Gas Co. Also the Tesla Coal Co. manufactures them. Think their address is Stockton.

Weak Legs.

I have a sow heavy with pigs, who has a weakness of the hind legs and hips. Kindly advise through your paper as to cause and how to treat her.—F. F. W.

This is a defect in breeding too fine. Put the sow on a board floor with plenty of bedding under her. Put on the side boards of the pen to prevent her from overlying the pigs when they come. After she raises her pigs fatten her off for pork. I would not use her offspring for breeders as they are likely to have the same physical defects. I am not giving you any medicine for the sow, as a sow is rather dangerous to dope as the pigs are apt to be lost. The young pigs can be fed on ground bone and lime sulphur, iron, charcoal mixture after they are weaned, in hopes of making their bones harder.—M. E. S.

Warts.

My heifer of 21 months has a wart on back teat that is enlarging; is now as large as a small hickory nut. Not hard, and gives no discomfort to cow, but stains the palms of my hands at every milking with blood. Should it continue to enlarge, it might prohibit milking. Am feeding one broken green watermelon night and one in morning with one quart of bran. Is that amount of bran enough? Do the melon seeds dry the milk? Two flakes of alfalfa a day.—E. D., Redlands.

Twenty-one months old and in a milking string! Surely, this is child labor! It does not seem that

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

the milk can have the vitalizing quality as human food when from so young and undeveloped an animal. It is not wise to have a heifer come in to milking as early as this, not wise for the health and development of the future cow, nor wise from an economic point of view, as the cow will first add to her own stature before she gives up the substance of the food to the milk pail. Heavy feeding is all that can save the milk for the pail. This heifer must be running on grass or else she would starve on the food given to her. Watermelons are over 95 per cent water. Their value lies in the succulency that they add to the other food, rather than in themselves directly. Seeds are not regarded as injurious to milk flow.

The excrescences we call warts are always hard. I think that this being a soft tumor and given to bleeding it should be cut out by a veterinary and then the spot cauterized. A milking tube will have to be used until the place heals over.—M. E. S.

Feed for Calf.

I have a two-months-old calf; she has been fed on a mush made of oil cake meal, shorts and feed meal, cooked. I put a pint of that in a gallon of skimmed milk three times a day; she eats hay, sweet potatoes and grass now. What I want to know is how much longer I will have to continue cooking the mush for her, and how much longer she will have to have the milk.

Gradually reduce the amount of milk used by adding hot water to the mush. In two weeks the amount can be all hot water, and then gradually thin out the mush. Put some of the same mixture used for the mush, uncooked, dry in a little box, salting with a teaspoonful of salt to each quart. Watch the calf and do not allow it to fall off in condition. If it does, add a little more of the mush in the hot water. At four months old it should be eating well of the dry mash and grass without other feeding. At once begin to feed only twice a day. All these changes must be made with care and slowly, but they soon work out the problem.—M. E. S.

Losing Milk.

We have a large Jersey cow which I think is not giving as much milk as she might if properly fed. We have fed her on good alfalfa hay, with about six quarts of bran and a quart of cracked corn per day. She has all the hay she will eat and is allowed to nibble at growing barley, too. When fresh in July she gave sixteen quarts per day. Now she scarcely gives twelve. Can you give me a balanced ration for her? I mean of the grains we have. Would oilcake meal be good for her? She has an unnatural craving for something; she will eat rags or ropes. What can I do to cure this? She has been well, and is in good shape, as to flesh.—Mrs. S.

Feed is sufficient. If the bran was made into a heavy slop with warm water well salted, it will often increase the milk flow. A good blanket at night if she is out of doors will help to hold up the milk in quantity. Habit has much to do with a cow drying off early, and if you persist in securing every drop of milk in her udder, the next time she freshens the results will be increased length of milk period. The cow does not need oil cake if she is dropping off in milk and holding her condition. The craving is for roughage; a few cornstalks would satisfy that, or, if not available, give her a tablespoonful of ground bone in her feed. Put a little slaked lime or plaster

with salt in a box for her to nibble on. It is the familiar slate-pencil appetite of our childhood days showing up in the cow.—M. E. S.

Yeast Treatment.

In your paper of Nov. 7, "Trouble with Cows," is an article on yeast treatment. I have a mare that has been served five times with no results, while she appears to be in proper condition, and I feel her the best of four of my working mares served the same time with good results. Could the yeast treatment be effectively applied in this case?—C. J. M.

Yes. The yeast treatment will cure about sixty per cent of the cases, where there are no lesions. Artificial impregnation is also nearly sure to remedy these cases. Many mares can be brought out of this trouble by putting them on hard grain feed and working them down to racing condition. Overfat, internally, is often a cause of barrenness.

Budding Peaches.

I planted some peaches last April which came up fairly well, but I did not get them budded this summer. What would be the best to do with them if I can bud them the coming spring to advantage.—L. Jacobsen, Selma.

Select bud sticks from this summer's growth and place in slightly damp sand and in a cool place, till the young trees begin to grow in the spring. You can't bud till the bark slips. Cut your bud sticks after mid-winter and before there is a flow of sap that will swell the buds. If you do not have any luck with them, you will have to wait till June or such time as the new growth of peach wood is ripe enough to use buds from. This is when there is fiber enough in the wood to prevent its being brittle. These instructions refer to budding under the bark. Peach trees may be budded before the bark slips by using buds from large scions. The bud is cut from the top down just as a bud is cut from a scion for the purpose of inserting it under the bark, and a cut of the same approximate size is made on the stock, only the piece of bark is not removed, but left attached at the bottom like a hinge. Place the bud under this so that the inner barks will come together and bring the flap of bark up over it and tie with waxed cloth. This is known as winter budding and may be done late in the winter or early spring before the sap starts.—J. W. M.

Grafting Apple and Plum Trees.

Please tell me how to graft on apple and plum trees and when?

Also how to bud on old stock. I am a beginner in horticulture and need this information.—J. M. M., Tropic.

About the time the blossom buds begin to swell so as to show color, cut off the branches and put in a cleft in each branch. If the branches are over two inches in diameter, put one on each side of the stump. A cleft graft is made by splitting the stump and inserting a wedge-shaped scion that will fit snugly when in place. Always have the inside barks mated, that is, come even. The bark on the stump will be thicker than that of the scion and this will make the outer barks uneven. This makes no difference. Make a grafting wax of four parts rosin, two parts beeswax and one part tallow. Boil together till well mixed. Dip rags into this while boiling and tear into strips about three quarters of an inch wide. Wrap these around the stumps and over the top

so as to cover all the cracks that are made by putting in the graft. Have some wax hot and paint over with hot wax so as to stop up all pores. Another way is to paint the stumps and points of union with the hot wax, wrap with cloth and wax again.—J. W. M.

Alfalfa Tainted Milk.

Will you kindly give me some information I have never seen discussed about—alfalfa. Many people here object to feeding alfalfa hay to milch cows, saying it imparts a bitter flavor to the milk and butter. I have had the experience myself, have had both milk and butter so strong that it was unfit for use while feeding alfalfa hay. Could that have been the cause? If so, is there a remedy?—W. E. Yeaw, Washington, Nevada Co.

The claim has been advanced since the introduction of alfalfa. The best feeders continue to use it. The query has been sent to Mrs. Sherman who will answer it.

Government Land.

Please tell me how I can get information in regard to government land for settlement, homestead or otherwise.—S. S.

The U. S. Land Office at the corner of Spring and Market streets, Los Angeles, is headquarters for information as to land in Southern California, as is the San Francisco office for Central and Northern California.

Of course, those offices will not undertake to locate any one, neither will they give very much general information. Attorneys and civil engineers sometimes make a business of locating desirable claims. For instance, we are informed that one firm now in Los Angeles offer to locate one on what they claim to be a fine quarter section for a fee of \$125.

Dates.

I have a 'date palm in front yard which has three bunches of dates. Will they mature in this climate, and do they need any protection from cold? A Subscriber, Ceres.

If the dates do not ripen before frost they will not ripen at all. If they become nearly ripe, there is a chance for them to ripen another year. If you can bring the tree into bloom by early irrigation and fertilization, it will give a longer season in which to ripen. Dates are influenced in this way by early irrigation in dry countries. If the bunches ripen a few dates, many of the remaining ones may be ripened in an incubator. Cut the entire bunch from the tree with all the stem. Keep the temperature a little above 100 degrees.—J. W. M.

Black Fungus in Oranges.

I should like to have your opinion as to the advisability of picking up and burning the oranges with the black navels which drop from the trees. If the black spot comes from the sting of an insect, would the worm go into the ground, as I am informed it does with some deciduous fruits, and come out another season, in the form of a fly, to sting again? If you will kindly give me your views on this subject you will oblige Mrs. F. A. F., East Highlands.

The black spot does not come from a sting and it is not worth while picking up the infected oranges. The spores that cause that disease grow on many different things.—J. W. M.

In Heat.

I have a cow 10 or 11 years old that is in heat all the time; has been for the last two months or more; has been served four times, first time September third; would take service every day and a dozen times a day if allowed to; worries the other

cows all the time; what can I do for her?—J. S. M.

Give this cow iodide potassium; one dram night and morning in feed for a week. This will probably have desired effect. If not, it may be necessary to open the neck of the womb and dilate with an instrument for the purpose.—W. J. Oliver.

Black Scale Spray.

Please give spray suitable for black scale.—Subscriber, Arroyo Grande.

If only a few trees about the house, a strong suds in which a little coal oil is added and churned together will rid your trees of the scale. If you wish to work in a larger way and have a machine with agitator, spray with 28-degree distillate (not stove distillate, but especially prepared) spray. Mix two gallons to 100 gallons of water.

Paspalum.

Please tell me through your paper, when and how to sow or plant paspalum grass seed, when you wish to grow it for seed, including how much seed per acre, etc. I have a small amount of seed and I wish to use it to advantage.—C. C. E.

The best information may be had by writing the State University at Berkeley, where it has been experimented with for several years.

Ayrshires.

I noticed in a recent issue that you wanted to know where any Ayrshire stock could be found. I may state that I have some, a thoroughbred cow and two bulls. I have also two beautiful heifer calves.—Thomas F. Leslie, Santa Barbara.

Fermentation.

Why is a cow fed on green alfalfa and bran subject to bloating and foul breath.

Stomach fermentation or sourness. Add a teaspoonful of baking soda to the bran, as a corrective of the acidity.—M. E. S.

Bordeaux.

Will you please give me in your next issue the recipe for the Bordeaux spray for peach trees. Is now a good time to prune peach trees? A. M. M., Redlands.

There are many formulas for Bordeaux. That is, varying amounts of the copper and lime. But for winter wash the following is good:

Bordeaux is a combination of lime and bluestone (copper sulphate.) The active or efficient portion of the spray is the copper it contains. The copper in the Bordeaux mixture is in the form of a slowly soluble compound which is more or less dissolved by dews and rains. This dilute solution of copper is very poisonous to fungus parasites, but when rightly prepared and applied does not injure plants. For these reasons the Bordeaux mixture is the best general remedy for fungus diseases known.

Preparation.—For winter use the Bordeaux mixture should be prepared stronger than for the summer applications. A good general formula would be:

Bluestone 7 pounds
Lime 6 pounds
Water 50 gallons

First, dissolve the bluestone. This is readily done by suspending the bluestone in a sack in a barrel of water. The barrel should be filled nearly full of water, and the sack containing the bluestone suspended as near the surface as possible. In this way 50 pounds of bluestone can be dissolved in a barrel of water in a few hours. If enough barrels are



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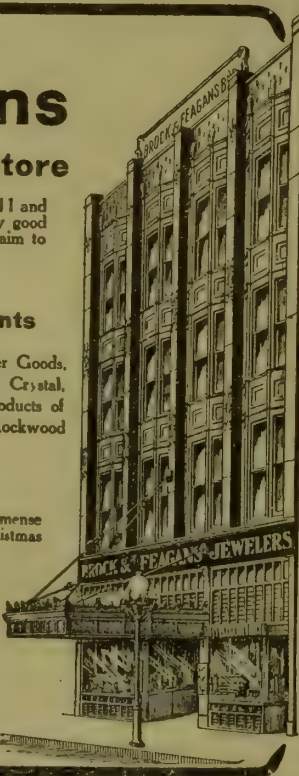
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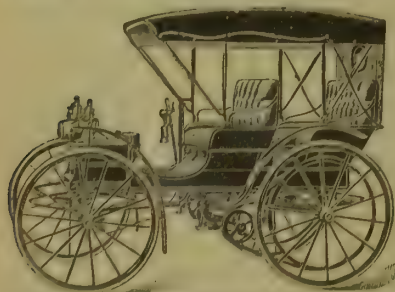
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Household Department

THE VALUE OF A SMILE.

The thing that goes the farthest toward making life worth while, That costs the least and does the most, is a pleasant smile. The smile that bubbles from a heart that loves its fellow men Will drive away the clouds of gloom and coax the sun again. It's full of worth and goodness, too, with manly kindness blent— It's worth a million dollars and it doesn't cost a cent.

There is no room for sadness when we see a cheery smile— It always has the same good luck— it's never out of style— It naves us on to try again, when failure makes us blue; The dimples of encouragement are good for me and you. It pays a higher interest, for it is merely lent— It's worth a million dollars and it doesn't cost a cent.

A smile comes very easy—you can wrinkle up with cheer A hundred times before you can squeeze out a soggy tear. It ripples out, moreover, to the heart-string that will tug, And always leaves an echo that is very like a hug. So, smile away. Folks understand what by a smile is meant, It's worth a million dollars and it doesn't cost a cent.

—Baltimore American.

A CHEERFUL LIAR.

Judson Castor, gentleman of leisure, a member of many clubs, in order to escape the heat of the city went to the seashore. On the beach the morning after his arrival he noticed a lady whose appearance he admired greatly. She was about twenty-five years old and tastefully dressed and had a strong face and an independent mein. Castor sat on the beach where he could look at her as well as the bathers and between her and them divided his attention. When the lady tired of them she put up a huge parasol, took up a book and began to read. At noon she arose and went to her hotel.

This was repeated daily. The lady was never seen by Mr. Castor with any one else. He saw her go in and come out of her hotel, but never in company. She did not appear on the piazza or on the beach during the afternoon nor in the drawing room in the evening. Castor was obliged to be content to see her for a couple of hours in the morning. Not finding any one to give him an introduction, he set about contriving to scrape an acquaintance. One morning he went to the city, and when he returned in the afternoon he had with him a handsome stickpin, a large pearl in a bird's claw. The next morning, he approached the lady, lifted his hat most deferentially and said:

"I beg your pardon. I found this pin in the sand yesterday at the place where you had been sitting. May I ask if it is yours?"

The lady looked at the pin, put her hand to her throat, appeared surprised and said:

"I had my pin with me yesterday and thought I had it now, but I see I haven't. I didn't know that I had lost it. Thank you very much."

Mr. Castor made a remark about the pleasure it gave him to restore her jewel, but since it did not appear from her manner that she desired the incident to form a basis for an acquaintance he bowed again and passed on. But he was astonished.

He had found no pin, and he was not aware that she had lost one, and yet she had taken the one he had given her and did not even give him permission to chat with her. What did it mean? She was certainly a lady. But would every lady have the strength of character to refuse a jewel to be obtained so easily?

Mr. Castor was much put out. He had no objection to buying a woman's favor, but when he bought he expected the goods to be delivered. He purposely passed the lady late in the morning while he was walking from the foam line up the incline of the beach. She did not notice him. He looked at her the next morning on the beach, but she gave him no recognition whatever. Castor, when cool, had good enough judgment, but when irritated it vanished. He made up his mind that the lady was waiting for more of the same kind.

The next day he went to the city again, and on the following morning the lady received through the mail a little box containing a solitaire diamond ring. With it was a bit of paper on which was written, "Also found on the beach."

The next morning Castor went to the shore solicitous as to the result of his daring experiment. The lady was not there, but later he saw her coming, followed by a man whom Castor judged to be a porter. As soon as she reached the beach she pointed to Castor, and the man approached. Handing Castor the box he had sent the lady, he said:

"I am told to say that you have made a mistake."

Castor, coloring took the box and shoved it in his pocket. The lady turned her back broadly on him.

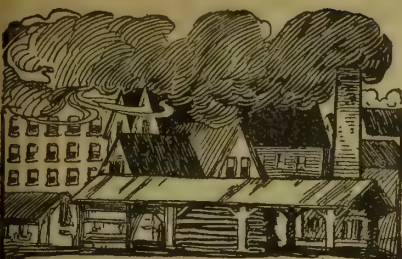
What did it all mean? Was she playing him for a big stake? Probably not, for she left the beach at once and the next morning did not appear. She had gone from the place. Castor went back to the city discomfited.

The next winter, one evening, while Castor was in one of the orchestra chairs at a theater, on looking up at one of the boxes he saw the mysterious lady of the seashore. He did not catch her eye and, man of the world as he was, had not the assurance to look up again. During an intermission he felt a tap on his shoulder, and a gentleman he did not know asked him if he might see him for a moment without. Castor's heart sank. He expected to have to answer for an insult to a lady. The man did not stop, as expected, at the foyer, but passed through it, mounted a flight of stairs, passed down the gallery and entered a box. Castor, following, stood before the lady of the beach.

"I have sent for you," she said, "to return what I supposed belonged to me, but was mistaken. I owned a stickpin like the one you handed me, though smaller. I never knew till after I had left the beach of my mistake. I have also the curiosity to know what induced you to send me the ring?"

And right here is where the genius of mendacity comes in. Castor, without flinching, asked, "What ring?"

The lady, astonished explained that she had received a ring which



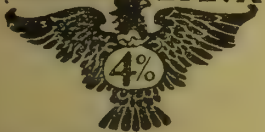
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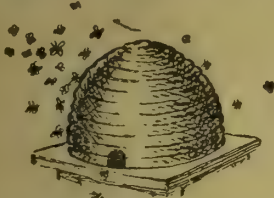
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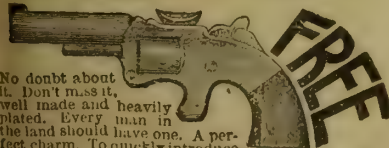
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she had supposed came from him. He looked so pained that she offered a double apology, one for receiving the stickpin and the other for returning him the ring. He was invited to remain with the party in the box till the close of the performance. He had secured his introduction.

She had been at the seashore with her invalid mother, which accounted for her being on the beach at times

RECIPES.

Corn Custard.

A corn custard makes a good dish for lunch. To a quart of corn which has been put through the food chopper, add a cup of milk and the yolks of two eggs, beaten well, salt and pepper. Put into a baking dish with bits of butter on the top and bake until brown.

Rice and Fruit.

A rice and fruit dessert may be made with a cup of rice stewed till thick and smooth in two cups of milk. Add salt to taste, two tablespoons of sugar and one tablespoon gelatin dissolved in a little milk. Add any desired flavoring and pour into a mold to cool.

Peel some small pears, add sugar to taste and cool in a little water till the fruit is transparent. When cool turn the rice out of the mold and surround with the pears and juice. Other fruit may be used if preferred.

Indian Griddle Cake.

For Indian griddle cakes, put in a large bowl half a pint of yellow meal, a level teaspoon of salt and one tablespoon of sugar. Pour over this one pint of boiling water, and when thoroughly mixed, add one and one-half cups of cold milk. Let the mixture stand at one side until perfectly cold, then stir in one cup of flour in which one teaspoon of baking powder has been sifted, and last add two well beaten eggs. Indian cakes should be cooked slowly and thoroughly.

One-Egg Cake.

One cup sugar, one large spoon of butter. Mix the two, then add one beaten egg and mix again. Two cups of sifted flour in which two teaspoons of baking powder and one-half teaspoon salt have been added, two-thirds cup of milk. Flavor with vanilla and lemon or with raisins. put into a cool oven until it has risen, then increase the heat.

Mayonnaise Dressing.

Have everything as cold as possible, and in warm weather it is well to set the plate in which the dressing is made on a piece of ice.

Into a cold soup plate drop the yolk of egg, squeeze upon it one teaspoon of lemon juice and stir until well mixed. Add, drop by drop a cup of salad oil, beating constantly until the mixture becomes quite thick, and being careful not to reverse the motion, as the oil and egg may separate. Season with half teaspoon of salt, one saltspoon of mustard and a dash of cayenne pepper. Thin the dressing with one teaspoon of vinegar.

"Effie," said Margie, who was laboriously spelling words from the first reader, "how can I tell which is 'd' and which is a 'b'?" "Why," replied Effie, wisely, "the 'd' has its tummy on its back." — Harper's Weekly.

HOMELY HINTS.

Sausages should be served with apple sauce or baked tomatoes. Either makes them more easily digested.

To clean a wetland shawl, put it in a pillow slip with a quart of white cornmeal. Rub and shake the pillowslip so that the cornmeal will penetrate every thread of the shawl. If the shawl is very much soiled, two applications of the cornmeal will be necessary. When clean, shake well, and, if possible, hang in the wind.

Strong hot vinegar will remove paint from window glass.

Bright sunshine will remove scorch which has been made by using an overheated iron.

Did you know, too, that in bleaching unbleached muslins, if you would put about three teaspoonsful each of coal oil and common baking soda into five or six gallons of water and boil them vigorously before putting on the line you would be aided wonderfully in the process? This is also a great help in the washings each week as it makes the clothing much whiter.

To remove the odor of anything burning on your range cover the place with salt. This will also remove the odor of fish or onions from the vessel in which they have been cooked. Turn them down over some salt on a hot stove for a few minutes.

ANANIAS OUTDONE.

Senator Tillam of South Carolina tells of a little girl whose statements were always exaggerated until she became known in school and Sunday school as a "little liar." Her parents were dreadfully worried about her and made strenuous efforts to correct the bad habit. One afternoon her mother overheard an argument with her playmate, Willie Bangs, who seemed to finish the discussion by saying emphatically: I'm older than you, 'cause my birthday comes first, in May, and yours don't come until September."

"Oh, of course, your birthday comes first," sneeringly answered little Nellie; "but that is 'cause you came down first. I remember looking at the angels when they were making you."

"Come here, Nellie, come here instantly," cried her mother.

"It is breaking mother's heart to hear you tell such awful stories. Remember what happened to Ananias and Sapphira, don't you?"

"Oh, yes, mama, I know. They were struck dead for lying. I saw them carried into the corner drug store."—Pittsburg Dispatch.

TOO MANY PIN-FEATHERS.

A well-known club man of Boston was married during the early days of the past winter to a charming Wellesley girl, who, of her many accomplishments, is proudest of her cooking.

The husband returned late one afternoon to his home in Brooklyn to discover that his wife was "all tired out."

"You look dreadfully fatigued, little one," came from hubby, in a sympathetic tone.

"I am," was the reply. "You see, dear, I heard you say that you liked rabbit. So early this morning I went to the market to get you one. I meant to surprise you with a broiled rabbit for dinner, but I'm afraid you'll have to take something else. I've been hard at work on the rabbit all day, and I haven't got it more than half picked."—Lippincott's.

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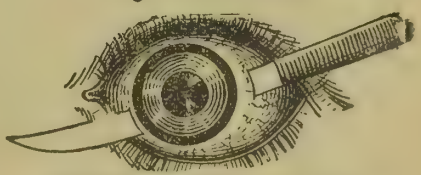
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Many have thrown away their glasses after using it a week. Preachers, teachers, doctors, lawyers, engineers, students, dress-makers and all who use their eyes under strain find with this Magic Lotion a safe, sure and quick relief. If you have sore eyes or any eye trouble write me today. I am in earnest in making my offer of a free trial bottle of this lotion. I am glad to furnish proof in many well-proven and authentic cases where it has cured cataract after the doctors said that only a dangerous and expensive operation would save the sight. If you have eye trouble of any kind you will make a serious mistake if you do not send for my great free offer of this Magic Eye Lotion. Address with full description of your trouble and two-cent stamp, H. T. Schlegel Co., 223 Home Bank Bldg., Peoria, Ill., and you will receive by return mail, prepaid, a trial bottle of this magic remedy that has restored many almost blind to sight.

The last car of green fruit for 1907 left Vacaville November 21.

LINERS

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FOR SALE AND RENT—LAND IN choice 40 and 80-acre pieces on 1-10 down. Balance long time. Fine orange and grape land 17 miles south of Porterville. Earliest and best fruit, early potatoes, and all vegetables show largest yield. Wheat yield 10 sacks. We will rent you adjoining your place ¼ section for wheat on 1-5 crop. Best offer in California to get a farm of your own. Call or write, JOHN RUPP, 525 S. Spring St., Los Angeles.

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EGGS FROM MY PRIZE WINNING Barred Rocks; won all special and 13 regular prizes on Barred Rocks at late Los Angeles show. Eggs from best pens, \$2 and \$3 per 15; \$10 per 100. Can furnish any quantity. Also offer extra bargains in breeding stock. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

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FOR SALE—KLONDIKE, EXCELSIOR, Arizona and other varieties of strawberry plants, \$2.00 per thousand, f.o.b., Gardena. Would like to deliver plants by first of January. Address, D. P. DUNCAN, Gardena, Cal.

FOR SALE—200 MAMMOTH BLACKBER-ry, \$2.50 per 100; 1000 Himalya Blackberry, \$5.00 per 100, \$40 per 1000; 2000 Loganberry, \$2.00 per 100, \$15 per 1000. Make money orders payable at Redondo, Cal. EUGENE J. SHARADIN, Perry, Los Angeles Co., Cal.

WANTED—ONE-YEAR OLD LOGANBER-ry plants. Address, P. O. BOX 2697, Fresno, California.

W. J. ROOKS OF AZUSA, CALIFORNIA, has for sale a special fine line of Brandywine strawberry plants. \$2.50 per 1000.

FLOWERS.

FOR SALE—A FINE STOCK POINSETTIA at 25, 50 and 75 cents; large blooming plants, just received; a fine lot Araucaria Excelsias, 75 cents, \$1.00, \$2.00 and \$3.50; very nice plants. H. L. BAUER & SONS, 737 S. Spring St., Los Angeles, Cal.

BOOKS.

FREE—"THE POULTRY MANUAL," BY those high authorities, F. J. Sewell and Ida E. Tilson, profusely illustrated. Send us the names of twelve persons keeping any poultry and we will send it to you absolutely free and postage prepaid. WEST COAST STOCK FOOD CO., 818 San Fernando St., Los Angeles, Cal.

DUCKS.

INDIAN RUNNER DUCKS—A FEW FINE breeders for sale now laying; extra drakes. Eggs, \$1.00 per 12. Black Langshans, young stock for sale. CLYDE J. MOSS, Corona, Riverside Co., Cal.

SITUATION WANTED.

WANTED SITUATION BY RELIABLE industrious, young man with California experience in vineyard, orchard and general farm work. Address, "Vineyardist," care of "Cultivator," Los Angeles.

MISCELLANEOUS.

FOR SALE—WHY PAY \$5.00 FOR CHRIST-mas presents? We have 10 imported best Christmas Cocks, covered walnut feet, four-foot chain weight, as an advertisement, \$1.20. Send money order. DEMMITT CO., 120 N. Main St., Los Angeles.

MACHINERY.

FOR SALE—STOVER GAS ENGINES, SIM-plicity pumping plants. LIVINGSTON & LEE, 352 S. Los Angeles St., Los Angeles, Cal.

FOR SALE—JUST OVERHAULED IN local machine shop; 22-H. P. Foos distillate engine at a very low price. Worth looking up. 943 N. MAIN ST., Los Angeles.

FOR SALE—A SNAP—10-H. P. WEST-COAST engine in fine condition. Investigate. N. W. corner MAIN AND BRUNO STS., Los Angeles.

FOR SALE—60-H. P. FAIRBANKS—MORSE gasoline engine almost new at a bargain. WAITE, BAILIE CO., Los Angeles, Cal.

POULTRY.

WHITE PLYMOUTH ROCKS EXCLUSIVE-ly. The largest flock of prize winning birds in the West. At the late Los Angeles show, 1907, we won twenty-three out of a possible twenty-five prizes. We offer extra bargains in our this year's breeders. Will sell to suit purchaser. Eggs \$2.50 per 15; \$10 per 100. A. J. LITTLE, Monrovia, Cal.

SACRIFICE SALE—LAST YEAR'S BREED-ers, White and Brown Leghorns from best laying strains, in lots of five or more at \$1.00 each, worth double the price. Also 30 fine mammoth Pekin ducks at \$1.00 each. HEMET POULTRY YARDS, Hemet, Cal.

GET INTO THE CHICKEN BUSINESS. I have a job for you. Earns \$45 to \$50 per month; takes half your time. \$750 required. Write BOX 120, Lordsburg, Cal.

FOR SALE—IN A BUNCH—TWELVE White African guineas; June hatch, M. F. COVELL, R. D. No. 2, Escondido, Cal.

HOGS WANTED.

WANTED—THREE THOROUGHbred Poland China boars ready for service. What have you, and at what price? J. A. WALTON, Redlands, Cal.

IT'S PENNY WISE.

Policy to set out a good tree, costing good money and then let the sun burn the bark or the rabbits gnaw it when for \$1.00 an acre you can get Yucca Tree Protectors that are practically indestructible. Write for free sample of the wrap. Yucca Manufacturing Company, 1380 Willow Street, Los Angeles.

"SURE HATCH" TO THE FRONT.

Famous Incubator Breaks All Selling Records. Over 140,000 Sold.

The year 1907 has been one of wonderful success for the "Sure Hatch" Incubator Company.

The output of "Sure Hatch" Incubators and Brooders was far in excess of any previous year, and with its splendid new factory, the largest in the world, the sales for the coming year will, undoubtedly, be on a still grander scale.

"Sure Hatch" Incubators and Brooders are used all over the world and have established the highest reputation for results.

The "Sure Hatch" Incubator is built of finest California Redwood, equipped with the Hot Water Heating System made of indestructible Solid Copper, and its Heat Regulator is at the side instead of on top. Hence, it has a convenient Table Top.

The "Sure Hatch" Safety Lamp burns less oil than ordinary incubator lamps, and never smokes.

This machine hatches every fertile egg and is so simple and easy to operate that no experience is needed. Thousands of men and women everywhere are making money raising chickens with "Sure Hatch" Incubators and Brooders. The Company has just issued a valuable Free Book on Poultry Profits that everyone should read. You can get a copy by writing a postal to the Sure Hatch Incubator Company, Box 150, Fremont, Neb., or Dept. 150, Indianapolis, Indiana.

COMBINED.

Two of the largest houses of Los Angeles, handling irrigation and mining supplies have combined and will hereafter be under one management.

These concerns are the S. J. Smith Machinery Co., well-known to Cultivator readers, and the Levi Booth Co.

The new firm will be known as the Smith-Booth-Usher Co., and the main office will be at 214 South Los Angeles street, Los Angeles.

The officers of the new company are: S. J. Smith, president; Franklin Booth, vice-president; W. H. Booth, secretary; B. S. Beddison, assistant-secretary and H. P. Usher, treasurer.

All kinds of irrigation supplies, from a washer to the most complete of plants, is the capacity of the firm. No problem will be allowed to perplex the corps of engineers.

Pumps to work under all conditions, and engines of any capacity are constantly in stock.

Mining machinery, wood working machinery and marine engines will be handled in their departments. That may not interest Cultivator readers, but it may show that it is a big concern, ready to do business in the machinery line in a big way.

The Produce Markets

Los Angeles Markets

LOS ANGELES, Dec. 4, 1907.

Cutter.

Butter market is very firm, though offerings of buyers are often under quotations by 2 cents. Buyers offered 65 cents yesterday in large quantities, but sellers, as a rule, hold to quotations, which are yet 67½. Eastern is quoted 5 cents higher.

Creamery extra per roll... 67½
Firsts... 65
Seconds... 60
Dairy... 45
Cooking... 45@47
Eastern... 65
"Butterine"... 15@22½

Cheese.

Cal Young America per lb... 20½
Hand... 20½
California Anchor... 19
Northern fresh... 17½@18
Eastern singles... 19
Imported Swiss... 32
Tulare flats... 18½
Domestic Swiss... 22@23
Oregon... 18

Eggs and Poultry.

Prices on eggs are still quoted as last week, but market is not at all strong. A decline is anticipated.

Eggs local candled... 45@47
Eggs case count... 43@43½
Fresh Eastern... 35
Eastern storage... 23@26

All poultry has declined; the heavy Thanksgiving supply held over depressed the market. It will probably soon recover.

Hens per lb... 12
Young roosters per lb... 14
Fryers... 14
Broilers per lb... 19
Old roosters... 7
Turkeys... 15
Geese... 12
Ducks... 11
Squabs... 1.75@2.00

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 lbs... 6½
Prime steers... 4½
Heifers... 4
Calves per lb... 4½@5
Sheep ewes per head... 4.75
Lambs per head... 3.75@4.25
Wethers... 5.50

Potatoes.

The potato market is weak and very uncertain. A local paper says of it: Dealers are still in a quandary over what the final outcome of the potato deal will be this year. There are many who look for prices to go still lower than they are at present or than they have been at any time so far this season. They declare the supply in the northern country is yet unlimited and it is only a question of time until the money situation eases up when the large operators will jump into the northern field again and buy up those potatoes in a wholesale way and dump a large portion of the supply down upon the local market regardless of its condition.

Highlands... 1.15@1.25
Early Rose... 1.75@2.00
Salinas... 1.65@1.75
Colorado... 1.75
Sweet potatoes per sack... 1.80@2.00
Oregon... 1.50@1.65
Idaho... 1.35

Onions.

Silver skins... 2.50
Yellow Danvers... 2.30@2.50
Australian Browns... 2.30@2.50
Globe... 2.50@2.75
Oregon... 2.50@2.60
Garlic... 8

Vegetables.

Artichokes per doz... 1.00@1.25
Beets per doz... 30@35
Bell peppers green lb... 2.00
Beans Lima per lb... 4@5
Beans green... 3@4
Cabbage sack... 35@50
Celery per doz... 30
Chili peppers green lb... 3@4
Cucumbers per box... 30@50
Pickling... 75
Corn per box... 75@85
Cauliflower... 1.50@2.00
Carrots per doz... 30@40
Eggplant per lb... 2
Green onions doz bunches... 10@30
Hubbard squash per lb... 1@1½
Lettuce per crate... 75@1.25
Mushrooms... 1.00
Pie Pumpkins... 1½
Peas sugar per lb... 3@5
Okra per lb... 5@6
Parsley... 30
Parsnips... 35@40
Rhubarb per box... 1.00@1.25
Radishes per doz... 15@20
Salsify... 30
Spinach per doz... 50
Summer squash crate... 15@35

Turnips doz bunches... 40
Tomatoes per box... 50@1.25

Citrus Fruits.

New oranges... 2.50@3.50
Culls... 75@1.00
Grapefruit seedless... 2.50@3.00
Grapefruit seedlings... 1.75@2.00
Lemons fancy... 2.25
Lemons choice... 1.50@1.75

Fresh Fruits.

Bellefleurs... 1.90@2.00
Baldwins... 1.25@1.50
Pippins 4-tier... 1.50
Gravenstein... 1.50
Alexandria... 1.00@1.50
Cooking... 50@1.00
W W Pearmain... 1.75
Colorado Jonathans... 3.50
Casaba per crate... 2.50@3.00
Figs black per lb... 8@12
Figs white... 11@12
Guavas... 4@6
Grapes Isabelas per box... 1.25
Rose Peru... 1.10
Malaga per lb... 10
Muscats... 1.25@1.70
Tokay... 1.50@2.00
Cornichons... 1.25@1.75
Pears... 1.25
Winter Nellis per lb... 6
Peaches per box... 1.50@2.00
Pomegranates per lb... 7
Persimmons... 4@6
Quinces... 1.25
Raspberries... 15@18
Strawberries... 8@12
Watermelons per cwt... 1.50@2.00

Dried Fruits.

Apricots... 17@21
Evap apples fy per lb... 10½
Figs loose... 4@6
Peaches... 12@13
Pears... 12½@13
Nectarines... 13@14
Prunes... 3½@5½
Plums... 11½@13

Beans, Dried

Limas per ctl... 5.50@5.75
Pink No 1... 3.75@3.85
Lady Washington... 3.75@4.00
Small White... 3.90@4.00
Black eyes... 4.50@4.75
Garvanzas... 5.25@5.75
Lentils... 12@12½

Nuts.

Almonds per lb... 18@20
Peanuts Virginia... 8½@9
Peanuts California... 6@7½
Walnuts No. 1 S S... 15@16

Hay.

Barley No 1... 14.00@18.00
Barley No 2... 13.00@14.00
Alfalfa northern per ton... 15.00@17.00
Alfalfa new local... 15.00@17.00
Plain Oat No 1 new... 16.00@18.00
Wheat No 1... 18.00
Wheat No 2... 14.00

Grain.

Wholesale selling price f. o. b., Los Angeles.
Wheat new per ctl... 1.80
Wheat in 100-lb. sacks... 1.80
Barley... 1.50
Corn Eastern sacked... 1.80
White oats... 1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn... 1.80
Shorts... 1.50
Bran... 1.40
Oil cake meal... 2.50
Feed meal... 1.80
Rolled barley... 1.70

FERRY'S FREE SEED BOOK.

For half a century thousands and thousands of farmers and gardeners have regarded "Ferry's Seed Annual" as the best guide not only for the buying of seeds, but for their planting and care. Daily reference to its text and illustrations proves it to be the actual beginning of a successful season. The new edition for 1908 is now ready for free mailing to all who write to the publishers for a copy.

It is a high tribute to the house of D. M. Ferry & Co. that two generations have planted Ferry's Seeds, each succeeding year adding to the confidence that "seed trouble" will never arise when Ferry's seeds are planted as "Ferry's Seed Annual" says they should be.

Another remarkable feature developed by the house of Ferry is the method of distributing seeds to dealers throughout the country so that the planters everywhere can secure a their home store exactly what they want when they want it, with the absolute assurance that it is fresh and fertile. Everyone should send at once to D. M. Ferry & Co., Detroit, Mich. for the 1908 edition of "Ferry's Seed Annual."

For practical cow milking machine see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles.

San Francisco Markets

SAN FRANCISCO, Dec. 3, 1907.

Butter.

Butter has advanced a couple of cents for extras during the week, though the market is rather dull at this time.

The current prices on dairy products in San Francisco are always from 2 to 3 cents higher than the rates given in the daily official list of the Wholesale Dairy Produce Exchange. The retail dealers in this city invariably pay an additional 2 cents per pound on butter and per dozen of eggs, and occasionally it is 3 cents. On cheese the increase is 1 cent per pound. By making these additions to the Dairy Exchange prices the producer in the country can always determine the actual prices ruling in this city. The quotations as prepared by the San Francisco Wholesale Dairy Exchange yesterday were as follows:

California extras per lb.35
California firsts.34
California seconds25
Eastern extras.24 1/2
Storage Cal ex.27 1/2

Cheese.

California young American fy16
California flats fy.14 1/2
Eastern fy.18 1/2
Oregon fancy.15 1/2

Eggs and Poultry.

Eggs have declined four cents for extras and firsts, and lower goods show a still heavier decline. Storage holds its own.

Poultry is going begging and most dealers are holding over rather than accept present low offerings. On top of the Thanksgiving hold-over two cars of Eastern came in yesterday. The top asking price on turkeys is now 20 cents. Other asking quotations are much the same as last week.

Fresh ranch eggs.56 1/2
Eggs firsts per doz.50
Eggs seconds per doz.27
Eggs thirds.23
Storage Cal extra.23
Eastern selected.23
Eastern firsts.20 1/2
Hens per doz.4.50@6.00
Hens extra.6.00@7.00
Young roosters.6.00@7.00
Old roosters.4.00@4.50
Dyers per doz.4.50@5.00
Broilers per doz.4.00@4.50
Geese per pair.2.00@2.50
Ducks young.4.00@5.50
Turkeys per lb.16@20
Pigeons.1.00@1.25

Live Stock.

Steers No. 1.8@8 1/2
Do second quality.7@7 1/2
No. 1 cows and heifers.6 1/2@7
Hogs 80 to 200 lbs.6 1/2@7
Hogs 200 to 300 lbs.6@6 1/2
Calves per lb.4 1/2@5
Lamb spring8@8 1/2
Wethers No 1.5@5 1/2
Ewes No 1.4 1/2@5

Potatoes

River whites.85@1.00
Oregon Burbanks.1.00@1.25
Salinas.1.30@1.60
Sweets.1.25@1.40

Vegetables.

Celery per crate.75@1.00
Cucumbers per box.75@1.00
Corn per sack.1.50@1.75
Chili peppers per box.35@50
Bell peppers per box.50@75
Egg plant per box.50@75
Green peas per lb.5@7
Squash per box.50@75
Marrowfat squash per sack.60@75
Hubbard squash per sack.60@80
Rhubarb per box.1.00
Tomatoes California.50@75
String beans.6@8
Wax beans.3@4
Garlic.4@6

Onions.

Onions Br Australian per ctl2.35
Yellow.2.00@2.25

Citrus Fruits.

New navels.2.25@3.00
Grapefruit seedless.2.50@3.50
Lemons.1.50@4.50
Limes.2.50@4.50

Fresh Fruits.

Apples Gravenstein.1.25@1.50
Apples small stock.40@75
Figs one layer.50@1.00
Blackberries.12 1/2
Pears winter Nellis.2.00@2.50
Pears cooking.1.00@1.50
Persimmons.75@1.25
Pomegranates per box.1.00@2.50
Quinces per box.1.00@1.25
Raspberries per chest.10.00@12.00
Strawberries per chest.5.00@10.00

Dried Fruits.

Apples (evap.)10@10 1/2
Apricots per lb new.18@21
Figs white.3 1/2@5
Nectarines.12 1/2@15

Plums pitted.12@15
Prunes 4 sizes.4@5 1/2
Peaches.10@13
Pears.7@13
Prunes 4 size bag basis4@5

Beans, Dried.

Limas.5.15@5.30
Pink.3.25@3.35
Small white.3.50@3.60
Large white.3.00@3.10
Lady Washington.3.40@3.50
Black eyes.4.00@4.25
Red kidneys.3.40@3.50
Bayo.3.15@3.25

Hops.

Hops have dropped a couple of cents during the week with market very weak.

Hops new future delivery per lb.4@8
Hops old fancy.2@3

Nuts.

Almonds new.16 1/2@17 1/2
Peanuts California.6 1/2@7 1/2
Walnuts14@17

Honey

Clear white comb.16@17
Amber12@15
Extracted.7 1/2
Beeswax No 1 per lb26@28

Hay.

Alfalfa local.12.00@14.00
Tame oat choice.17.00@19.00
Wild oat.12.00@14.00
Wheat No 1 new.20.00@21.00

Grain.

Wheat No 1.1.70@1.72 1/2
Barley No 1.1.57 1/2@1.60
Corn small yellow.1.65@1.70
Corn large yellow.1.65@1.70
Oats white.1.60@1.65
Oats red.1.75@1.90

Feed Stuff.

Bran per ton.26.50@27.50
Straw per bale.75@85
Feed cornmeal per ton36.00@37.50
Cracked corn per ton.37.00@38.00
Rolled barley per ton.35.00@36.00
Oil cake meal per ton.38.50@40.00
Cocoanut cake, per ton25.00@26.00
Middlings.30.00@32.50

Citrus Market

LOS ANGELES, Dec. 4, 1907.

Oranges are going forward at a more liberal rate than for several years at this date. The market is not strong and some fruit has sold rather low. In fact, it may be said that quotations over the East at this time is practically a dollar lower than they were a year ago at this time.

Lemons are also in the dumps and bringing a very low price.

Shipments.

Shipments of citrus fruits to date, are 906 cars, of which 380 were lemons. Last year same date 301 cars, of which 211 were lemons.

NEW YORK, Dec. 2.—Six carloads of navels and two carloads of lemons were sold. There is a fair demand for good colored navels, sizes 80s to 150s. The lemon market is weak and lower. The weather is clear and cold.

NAVELS—

A Brand xfy E High Cit As.2.70
Mariposa fy C Cit As Dist 13.2.50
Badger exfy C Cit U Tulare.2.45
Diamond Mountain.2.00
Orchid fy Atlnd Ft Co Los An.1.50
Palermo o r Bates & Boalt.1.15

LEMONS

Liberty fy Loveless Ft Co Escon 2.60
Palomar ch Loveless Ft Co Escon 2.05
Flower xfy Gr Ft Co Upland.2.20
Flower xch Gr Ft Co Upland.2.20

ST. LOUIS, Dec. 2.—The market is steady. The weather is cold. Four carloads were sold. Seven carloads on the track.

NAVELS—

Stag fy ACG Ft Ex Glendora.2.75
Pointer ch ACG Ft Ex Glendora 2.65
Hunter st ACG Ft Ex Glendora 2.25
Spanish Girl st AH Ft Ex Prenda 2.30
Bon Ton st AH Ft Ex Prenda.2.25
Forget-me-not fy TCC As Porter 2.70
Oakleaf ch TCC As Porter.2.65

LEMONS—

Cavalier st SH Ft Ex Prenda.1.75
Oakleaf ch TCC As Porter.2.65
Forget-me-not fy TCC As Porter 2.95

PITTSBURG, Dec. 2.—The market is steady. The weather is favorable.

NAVELS—

Gobbler xch Stewart Ft Co.1.80
Blue Label fy TCC As Lindsay 2.75
Orchid fy Atlnd Ft Co.2.20
Red Label ch TCC As Lindsay.2.40

LEMONS—

Excellent xch SP Ft As.2.80
Sunside st SP Ft Ass.2.20

CLEVELAND, Dec. 2.—The market is weak. The weather is cold. Five carloads are on the track.

NAVELS—

Gold Buckle xfy RH Ft Ex E HI 2.15
Lochinvar xch RH Ft Ex E HI 1.70
Golden Flower xfy Red O Gr As 2.90
Bear and Eagle fy Lindsay C As 2.25
Belt st RH Ft Ex E High.95

LEMONS—

La Mesa xfy Riv Ft Ex Riv.3.35
Camelia xfy Red Mut O Co.2.30
Gold Strand xch Colton Ft Gr As 2.00

BOSTON, Dec. 2.—The market is easier. The weather is cold. Nine carloads are on the track; five were sold.

LEMONS—

Bear xy O Ft Ex.2.95
Silent xc Flagler Ft Co.2.90
Flower fy Growers Ft Co.2.40
Quail xch OK Ft Ex.2.70
Flower ch Growers Ft Co.2.10

NAVELS—

Hollywreath fy C C U.2.10
Cactus (Ariz.) xch High Ft Gr A 3.35

PHILADELPHIA, Dec. 2.—The market is unchanged. The weather is freezing. One carload of lemons was sold. Eight thousand boxes of Floridas were sold. The market is depressed.

LEMONS—

Visalia, fy TCC Ft Ex Le Cv.2.95
Lemoncove ch TCC Ft Ex Le Cv 2.45
Florida oranges sold for \$1.30@2.55.

Queries and Replies

Continued from Page 555

at hand it is most convenient to dissolve just the amount required for a tank in each.

The lime should be slaked in a small amount of water and then strained into the spray tank along with one-half to two-thirds of the water required for the tank. Now add the bluestone solution, stirring constantly. If a power outfit, start the agitator. When the mixture is complete add what water may be required to fill the tank.

Spray at once for blight; if for curl leaf, not until spring.

Chlorosis.

I am sending some orange leaves which are turning yellow, some more than others, not only one tree but quite a number and are over the whole orchard. Here and there the whole tree, others part of the tree.

The soil is sedimentary loam some two and one-half feet deep then sand and gravel.—O. P., Corning.

The orange leaves you send are affected with chlorosis, but just what is the cause, we cannot say at this time. Dr. R. H. Loughridge at the Agricultural Department at Berkeley is now working on the problem. I has issued a circular on the subject. This you can get from the Director upon application.—J. W. M.

Raising Price After Signing Lease.

I am informed that it is now legally possible for the owner of a property to raise the rent on a leased property arbitrarily, in spite of a rental stipulated in the lease, and leave the renter no alternative but to pay the amount or surrender the lease. Is this true?

In sowing vetch in an orchard, is it advisable to leave spaces along the tree, rows for cultivating or may the vetch completely cover the ground?—R. J. T., Gardena.

We know of no such law. If your lease is in writing the terms therein must govern during the life of the same.—L. M. F.

The sowing of vetch in spaces makes easier plowing under. If sowed all over the ground, early plowing is necessary at first that the second, cross plowing will not tear out the green matter before it is partially decayed.

Apricot Seedlings.

I have a lot of apricot seedlings to graft; what can be grafted on them? Can apricots be grafted or merely budded? If anyone of your readers knows, please mention the different kinds of fruit which I can graft on them.—I. V., Livermore.

The apricot root is objectionable as a foundation for the peach, as it never forms a perfect union. It does well for an apricot top which is best for it.

Taxes on Mortgage.

Please tell me through your columns whether the giver or the holder of mortgage could pay the taxes on real estate.—A Subscriber.

The holder of the mortgage is required to pay the taxes, unless it has been agreed that the mortgagor is to do so, in which case the full amount of the tax should be assessed against the land. It is usual for the mortgagor to charge a higher rate of interest when he is to pay the tax, as the mortgage and the land cannot both be taxed.—L. M. F.

FERN PARK POULTRY RANCH.

The advertisement of the Fern Park poultry ranch is new to many readers, yet it is a well established ranch. There are bred on this ranch Buff Orpingtons and Indiana Runner ducks. The ranch comprises three and three-fourths acres at Corona. There are used three 450-egg incubators for hatching. The brooder house is 100 feet long with a 60-foot annex. One feature we liked about the houses is the concrete floors in the incubator house and brooder. Those desiring stock or eggs should write this ranch, as the owners are reliable and personally look after their orders.

TALLERDAY SURFACE IRRIGATION PIPE



SAVES WATER, GRADING AND TIME

The only way to irrigate alfalfa. Cheaper than Flumes. This is only one of our specialties. We make Riveted Water Pipe in lengths of ten feet from single sheets. Let us prove to you that we make Pipe and Tanks right. WRITE FOR CATALOGUE.

TALLERDAY MANUFACTURING CO.

636-7 Pacific Electric Building

Los Angeles, Cal.

DON'T BUY GASOLINE ENGINES

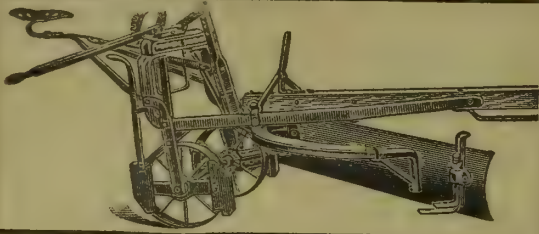
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The One-Man Road Machine

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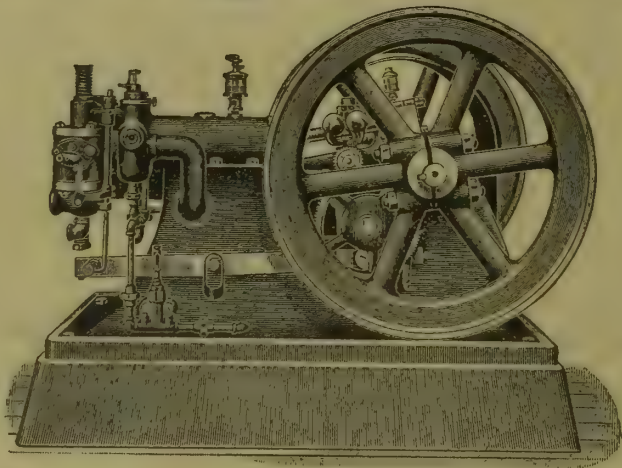
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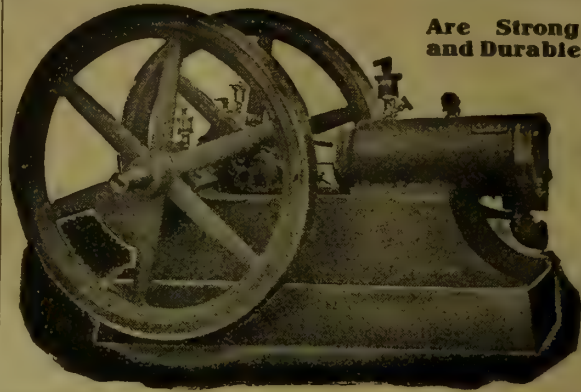
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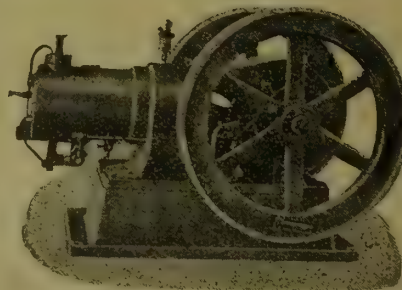
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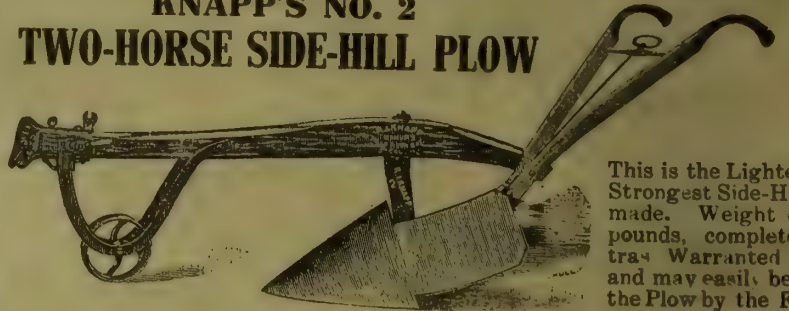
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California Cultivator

Los Angeles December 12, 1907 San Francisco

THIS is a view of a class at California Polytechnic School constructing a poultry plant. The construction of poultry plants is a leading feature of the course at this school. In the illustration the class in poultry culture is seen laying out runs, building and hanging gates, etc.

About half of the student's time is devoted to theory in the class room, a number of lectures are also given on the history of the breeds in order that the student may become familiar with the different crosses that were used to produce our standard bred poultry. Another line of work taken up in the class room is a study of feeds and feeding and the balancing of rations. Lectures are also given on mating, breeding and judging, attention being given to the judging of birds for utility purposes rather than fancy points. Drafting is also a part of the student's classroom work; drawings are made of different types of poultry houses and appliances, also the laying out of poultry plants.



THIS scene represents Mr. Lunn delivering a lecture on artificial brooding. These lectures are based on actual experience in brooding chicks in the brooders at the school farm. They give not only the scientific, but the practical side of the work.

Too much cannot be said of the good the school is doing. We have in our own State and throughout the United States, agricultural colleges, where men are prepared for teaching and for higher work, but here at the Polytechnic School you will find the boys who are to go back to the farm and do the actual work, the boys who are to be the future farmers of our State. The young man who would probably have left school after finishing the grammar grades now has a chance to continue his study and to do things with his hands, things which are not only interesting to him now, but will be of great service to him in after years.

THE illustration shows part of the poultry plant at California Polytechnic School, San Luis Obispo, California. To the left is the house used at the present time for an incubator room, feed room and office. To the rear is the brooder house which is divided into six pens for the use of individual brooders, and is also used as a laying house during the laying season. At the right will be seen a few of the different types of colony houses used at the school.

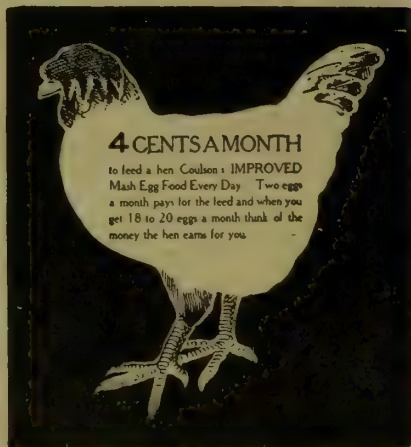
This is the only school in the State teaching a complete course in poultry culture. The work is under the direction of Mr. Alfred W. Lunn, who is well fitted for the position. He has spent several months recently in traveling over the State visiting the best poultry ranches, and gathering data for this week.

This is a secondary school of agriculture, mechanics and household arts. Students are admitted after completing their work in the grammar grades, or upon examination, which is given upon subjects covered by the grammar school.



Coulson's Improved Mash Egg Food

Takes
Less
Feed



Makes
More
Eggs

IF YOU WANT PLENTY OF EGGS THIS FALL AND WINTER when prices are high, you must lay your plans now. The hens must be given a strong feed which will enable them to get through the molt without loss of condition, and they will then quickly commence laying again.

First, see that your hens are healthy when they start to molt. At this time of the year, after a heavy laying season, they are apt not to be at their best, and a little of COULSON'S NO. 3 CONDITION POWDER will put new life into them, and enable them to thoroughly digest and use the good food which they specially need.

At the same time they must have the best food you can give them from the commencement of the molt. You will find COULSON'S IMPROVED MASH EGG FOOD is just what is required. It is strong in protein, due to the blood, meat, bone and oil cake meals which it contains.

Put Up in 90-Pound Sacks Directions in Each Sack

Your hens will not need to eat so much of the concentrated food to obtain the egg-making and feather-producing materials they need, thus saving their digestive organs and your pocket at the same time.

COULSON'S IMPROVED MASH EGG FOOD is therefore beneficial in two ways. Less feed is required and the hen gets just what she needs, with the result of a quicker molt and more eggs.

First cost is not everything, but even in this respect COULSON'S IMPROVED MASH EGG FOOD shows to advantage. A 90-lb. sack will make a meal for 1250 hens. This is just over 2 lbs. a hen a month. Think how many eggs does it take to pay for this feed? In November, only 1 egg, and not more than 2 on the average.

We know what this feed will do by results on our own poultry ranch, as well as from testimonials from pleased customers all over California. What it does for others, it will do for you.

Give a trial order to your dealer; if he does not keep it, write to us, and we will either advise you where you can get it locally, or supply you direct.

Manufactured by

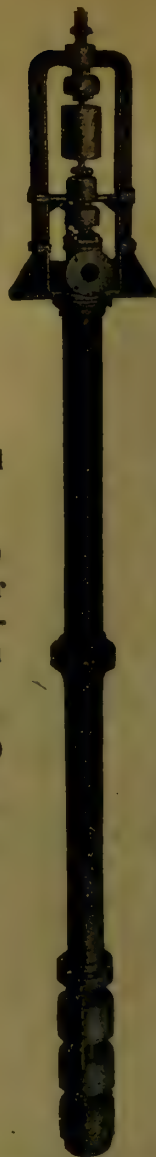
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California Cultivator

Vol. XXIX—No. 24

Los Angeles, California, Thursday, December 12, 1907

Subscription \$1 a Year

Poultry Possibilities in California

An Industry Yet in Its Infancy and With a Great Future. Let It Be Encouraged and Vast Importations of Poultry Products Stopped.

BY FRANK H. THOMAS, LOS ANGELES.

ODE TO THE HEN.

Kind mothers of broilers,
I sing to thy praise;
Though thy voice is strident,
I admire thy lays:
Thou art early to bed,
And early to rise,
And yet art neither
Witty nor wise.

IF WE were able to take an air ship and rise above this continent, and from there study this hurrying, jostling crowd of humanity, we could see at a glance that the problem of living is becoming more and more complicated each day. That the proposition "back to the land" is becoming more popular day by day.

Rural home seeking and rural home making is occupying a place in the minds of many Americans who were never interested before. On every hand, and particularly here in California, we hear the one desire expressed on all sides that we may own a small ranch where we can raise poultry and fruit and live independently.

The Cultivator feels it its duty to help just this kind of people, and with that in view devotes much of this issue to poultry. We have given many illustrations of fine fowls that were bred and raised here in California. Many of us know that the poultry industry of this State is one of the important ones, and is being developed fast, yet it is not half developed.

The Cultivator stands for pure bred poultry, bred for fancy and utility, and to that end is always ready and willing to encourage, promote and foster the industry in every way possible.

California offers a better market for commercial poultry than any State in the Union, and is today doing more to develop the industry than any of her sister States. She has some of the largest poultry ranches; yes, a whole city and community devoted almost entirely to breeding White Leghorns. We refer to Petaluma, which boasts of her 1,500,000 White Leghorns.

Petaluma has San Francisco for a market for her eggs and poultry. Her producers have organized an association for marketing their produce, and in this way assure the public that they are always getting fresh eggs, and in turn they secure the highest possible price for their produce.

Our friend Miller Purvis, editor of Poultry, after spending almost a year in this State studying the conditions of the industry, says:

"Few people in the East comprehend the size of California and the important place it is destined to take in the poultry industry. It is safe to say that no State is making more rapid progress as a poultry State than California, and it is entirely probable that the next census will show that it leads all other States in the breeding of poultry. With the mountains to the east full of miners, always hungry for poultry and eggs and Alaska, constantly growing in population without any possibility that it will ever produce poultry enough to be well worth mentioning, there is, indeed, an illimitable outlook in the great Central valleys of the San Joaquin and Sacramento rivers and the southern portion of the State lying south of the Tehachepi mountains. Here is an area larger than most of the great States of the Middle West, perfectly adapted to poultry breeding and surrounded by a hungry multitude which has no present or prospective facilities for producing poultry and eggs. This can not fail to stimulate the poultry business to a great degree. Besides California will always be the resort of tourists, health-seekers and the luxury-loving rich, who will seek its genial winter climate to escape the rigors of the winters of the East. All these have money to spend and have the habit of living well. The poultry breeder may depend on a large demand from these sources and look forward to being called upon for a constantly increasing number of eggs and pounds of poultry. In all our broad land there is not a more promising outlook for the poultry industry than in the State of California, and the fanciers of that State are beginning to understand this fact and prepare for the demand that will be made on them by breeding the best and highest quality of poultry, such as their market demands and is willing to pay for."

While Northern California produces by far more poultry than Southern, yet there is no reason for this for it has the climate, soil and market that is equal to any for the production of both commercial and fancy stock. We have a market that will get better each year, so those who expect to engage in the business need have no fear of the supply being greater than the demand.

That the fanciers are doing their best in developing this industry, is evinced by the fact that San Francisco on the north and Los Angeles on the south hold each year shows that rank well with the largest of the Eastern shows, New York and Boston only outranking us. Besides these shows there are a number of smaller shows held each year in the State.

The quality of birds shown at California shows compare favorably with the best birds in the country. Our fanciers have been liberal, yes, almost extravagant with their money when birds were wanted for breeding, the result being that now we have as good birds as can be found in the country. And we predict a bright future for the fancier, for the time will come when California birds will be sought just as California fruit is today. For here we can and do hatch chicks every day in the year, and with our mild climate and perpetual supply of green food, we can send our brother fancier "back East" birds that are as near perfection as ever stood before a judge.

Perhaps the old saying,
Was meant just for men,
And did not include
The motherly hen;
Though it does all the work,
The crowing is done
By the males of the household,
As usual, By Gum!
P. S. In other words, "Everybody Works
but Father."
—A. B. C. H.



Quartette of Golden Sebright Bantams.
Owned by M. E. Dillingham, San
Gabriel, Cal.



A White Wyandotte Hen.
Owned by M. E. Dillingham, San
Gabriel, Cal.



Five-Months-Old Daughter of Evange-
line.
Who Won 1st Pullet, Jan. 1907.



Pair of Cornish Fowls.
Owned by John D. Mercer, Los Angeles.



A Pair of White Polish Bantams.
Owned by R. A. Rowan, Pasadena.



A White Wyandotte Hen.
Owned by M. E. Dillingham, San
Gabriel, Cal.



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Owned by Geo. W. Randall, Santa Ana.



First Prize White Leghorn Pullet, San
Jose.
Owned by F. E. Baldwin, San Jose.
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Mission View Poultry Ranch

An Interesting Article Describing a Visit to the Ranch Where White Wyandottes Are Bred on a Large Scale. Where Over a Thousand Wyandottes Are Successfully Bred

Photos and Description by Frank H. Thomas.

More than a century ago the old padres marching northward through California and establishing a chain of missions chanced into a beautiful valley north of Los Angeles a few miles, and as usual they proceeded to honor one of their good saints by giving it his name. The next step was, of course, the establishing of a mission, and old San Fernando Mission became the gathering place of many of surrounding Indians, and of the Spaniard and Mexican, who had occasion to travel El Camino Real.

The riches of the surrounding lands soon proved the wisdom of these fathers and the vine, the olive and the orange were soon growing in profusion. The American, after the occupation, to a certain extent neglected the opportunities offered by that vicinity and for years it was not developed as its natural advantages would have warranted. Today, however, there is much development, and many are taking advantage of the section to establish fine paying properties there. Amongst these are Mr. and Mrs. C. D. Hubbard, who have established the Mission View Poultry Ranch, one of the largest and best known poultry ranches in Southern California.

Lemons and Poultry.

Here on a beautiful November day, found Mrs. Hubbard busy with her poultry and Mr. Hubbard picking lemons. The greater part of the ten acres is set to lemons which are in full bearing.

About eight years ago when Mrs. Hubbard embarked in the poultry business she had her ranch fitted up for commercial poultry. She intended to raise broilers, thinking there was no money in fancy poultry. With this idea in view she had her plant constructed on a large scale, building an adobe incubator holding 3000 eggs.

First of Its Kind.

This incubator when built was the largest in this country and the first of its kind to be built. It is one of the interesting things of the ranch. To heat this monster, gasoline is used to heat a large adobe oven which furnishes hot air to heat the incubator proper. The incubator is provided with a nursery, and is easy to regulate in regard to heat and moisture; the hatches have been very satisfactory.

'Dobe Brooder.

Besides this adobe incubator there is also on the ranch a hot and cold adobe brooder built on the continuous plan, which has a total length of 360 feet. Part of this is used for a cold brooder or where the chicks are put after they are large enough not to require artificial heat.

The warm part of this brooder is heated with hot water pipes running from a large stationary boiler, which is heated by a distillate burner and provided with the best of ventilating systems. Each section of this brooder is provided with an indoor and outdoor run.

Chose the 'Dottes.

After the ranch had been fitted for broilers, Mrs. Hubbard being attracted to the Wyandottes she decided to give this bird a trial. At that time she had several varieties of fowls, but after finding the Wyandottes so profitable, she gradually discarded one variety after another until now she only has the White Wyandottes of which she keeps two separate and distinct strains; the Washington and Lafayette strains.

Two Hundred or Better.

These strains are bred not only for fancy, but utility as well, as Mrs. Hubbard pointed out bird after bird that had an egg record of 200 eggs or better; no bird is kept which has a record under 144 per year.

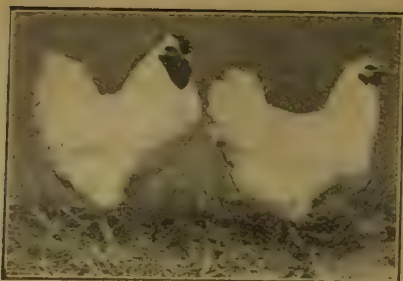
In each breeding yard trap nests are used and an accurate record of each hen is kept, and unless a hen proves a good layer, although she may be bred in the purple, she must go to the block. In this way she has a strain of Wyandottes that lay as well as any of the Meriterraneans. Another thing that is very noticable is the large eggs this strain of birds lays. Along this line Mrs. Hubbard has made especial effort in breeding and her success is shown by the magnificent size of the eggs. Color is also a fancy of Mrs. Hubbards, and her birds are now producing with fair uniformity a shell with a pinkish tinge. She expects in time to fix this trait of color of shell.

In the Four Hundred Class.

When I was at the ranch Mrs. Hubbard had about 1000 birds and I never saw a better large flock of birds. It is no unusual thing to go into one's yards and find a few good birds, but to go to a ranch and find over 400 breeders mated up and not a bad bird in the lot, is certainly a sight to behold.

Besides the "400" Mrs. Hubbard has over 600 very promising youngsters. She expects these to be ready for the breeding pen next spring. One thing I attribute the success of this ranch to is the thorough knowledge of the true Wyandotte type.

I so often visit ranches where thoroughbred poultry is bred and find those in charge of the mating and breeding entirely unable to settle in their minds the true type of the bird they have chosen to breed. But Mrs. Hubbard has the correct type in her mind and is able to mate to produce it.



Lafayette and Mate.



Hen—490.



Hen—Snowball.



Hen—Queen Sylvie.



Cockerel—400.



Washington and Mate.



Pullet—Pet.



Cockerel—Geo. Washington, 2nd.



Pullet—White Beauty.



Hen—Princess and Sister.

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Contains all the elements necessary to build eggs and make feathers grow. Prepared specially to meet the needs of both the laying and moulting hen. A full meal of this splendid tonic once a day during this trying period is a necessity. Read these opinions of practical poultrymen.

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"Your Egg Food is all right." CHAS. MCENTREE, San Luis Obispo, Cal.
"Common Sense Egg Food is the best stuff for chickens." Geo. Striker, Snohomish, Wn.

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ing Pullets six and seven months old from ve hens, at \$15.00 per dozen. Also L. R. Ducks Drakes at \$9.00 per dozen.

H. G. Spargur, Soquel, Cal.

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the best in the State. I proved it at the last Fair, winning four of the five firsts from best breeders in the State. Hatching Eggs, er hundred, \$1.50 and \$2.00 per setting.

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HITE AND BUFF WYANDOTTES

ad Golden Sebright Bantams, prize winners
Stock and Eggs in season

E. Dillingham, Box 67 San Gabriel, Cal

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Artificial Incubation

BY FRANK J. IRONMONGER, LOS ANGELES.
Written especially for the Cultivator

The writer of this article is an old time poultryman with an experience of over ten years. For the past five years he has made a close study of artificial incubation, having had charge of the incubator department of the Henry Albers Co., of Los Angeles.—Ed.

THIS subject has been discussed by all the poultry journals in the world and, I am afraid, has been discussed with the "dis" off by many poultry breeders, which should not be for nine cases out of ten, it is the fault of the operator rather than that of the machine.

I will frankly admit that there is a great deal left undone that will go to make the perfect hatching machine, still a great many of the incubators now on the market do wonderful work compared with the machines of twenty years ago, or even less than that. When purchasing an incubator, first purchase it from an honest business house, which will assist you in having success. Do not go to those who merely want your dollar and then turn you loose, but one who is willing to make each machine he sells a good standing advertisement for himself. Second, see that you understand all the workings of the machine before you leave the sales room, and don't take it for granted you can learn how to operate the machine in a moment, by reading the directions, when you get home.

It will help you a great deal by having the different parts explained. Third, notice particularly the condition the wood is in; it should be well seasoned and the seams closely joined and accurately put together; the changes from moist to dry are frequent, and unless the wood is in prime condition the machine will not last long. Fourth, and the one I think most important, is the ventilation. There are several different methods of ventilation, adopted by incubator manufacturers, and many of them are good, while others have practically no provision for pure air going into the egg chamber or for foul air going out. Unless an incubator is well equipped with ample ventilating devices it is almost worthless, especially after the first hatch. When the machine once gets moist and impure it is a difficult matter to dry it out.

The temperature in most all incubators on the market is easily and accurately controlled by the use of simple regulating devices, so that the operator need have little anxiety for uniform heat. I think there is too much stress laid upon uniform temperature throughout the entire hatch, and a great many operators are more or less led astray by it, thinking that they must not let the heat run above 103 degrees, or lower than 103 degrees; but the mercury must remain at that spot all the time or the hatch is ruined. If the temperature ever changes from 103 degrees and the hatch is poor, they know why it was a failure. More likely it was because the eggs were kept in a too constant heat. Avoid overheating eggs at any time during the hatch. It causes the heart to pulsate rapidly, the greater the heat the more rapidly it pulsates, until unable to keep up under the strain, a blood vessel bursts and a dead embryo is the result.

Underheat, if not too frequent, will do no harm even if the eggs get cold. Many readers, no doubt, have had experience with a hen leaving her nest just a few days before hatching

time or sooner, and to the hands the eggs are stone cold, possibly been left uncovered all night. You were on the verge of throwing them away, when you thought you would try them under another hen and to your surprise at hatching time the nest is full of strong, healthy chicks. Give these same eggs at the very same time as much additional heat over 103 degrees as they had cold below 103 degrees and you would have nothing but cooked eggs. Bear this in mind for the same rule holds good with an incubator.

When you have your tray of eggs outside the machine turning them, leave the machine door open and let the egg chamber cool down and also change the impure air to fresh air. I hear someone say: "My directions say close the door." I know they do, the incubator manufacturer wants to save fuel for you; but just try it once and see if your results are not better. If there is no air stirring in the room and the machine is large, take a fan and force a change of air in the machine.

Turning the eggs during incubation is a necessary feature to insure a successful hatch. The turning not only prevents the embryo from anchoring or settling to one side of the shell, but the exercise brought on by struggling and turning gives the embryo strength that insures a strong, healthy chick.

The hen is a perpetual turning machine, using her beak or her legs and wings to roll the eggs and shift their position. She doesn't care whether the eggs are turned exactly over or not, but simply keeps them moving. Incubator operators: It is just as unnecessary for you to mark your eggs and see that they are turned exactly over as it is for the hen; just simply shift their position, or in other words, stir them up, being careful that the large end of the egg is not left turned downward.

It is amusing to hear how different people prove that incubators are a failure and absolutely unreliable; they give as their authority something like the following: "I set a hen and an incubator, just to test them, about four weeks ago at the same time and on eggs from the same pen. Under the hen I put 13 eggs and from these she hatched 10 strong, healthy chicks. I placed 260 eggs in the incubator and it hatched only 190 chicks and six of those were cripples. Now, what do you think of that?"

Well, I think it is about time to ask a few questions, so I go to it. I find that the pen of fowls contains 25 females and two males, all feeds and conditions excellent. About 15 hens are laying which is just enough to set the hen with fresh day-old eggs; on the other hand the incubator must wait at least 18 or 20 days to get its supply. The eggs for the hen are carefully selected, discarding all eggs that are not the proper size; the incubator having waited so long, must take all of them no matter about size or shape. They have carefully collected the eggs for the incubator, but had never thought of turning them, which alone would

Continued on Page 576

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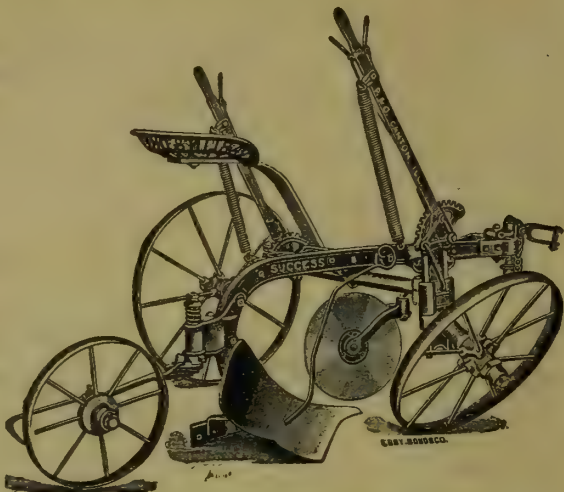
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Dead in the Shell

BY M. A. SCHOFIELD, GARDENA.

Written especially for the California Cultivator

Mr. Schofield is connected with the Gardena Hatchery, which uses the Bih Schofield method of incubation. This concern had an output last year of 200,000 chicks, and has increased its monthly capacity from 3500 to 100,000 in the past few years, or a present capacity for the year of 500,000 chicks. Mr. Schofield's experience qualifies him to write intelligently, and we believe his article will be of great value to Cultivator readers.—Ed.

WE wish to say in the beginning of our discussion that we do not regard the chicks found dead at the time of exclusion, as perishing from any specific malady or poisoned by any germ or microbe found only in unhatched eggs. We have seen this theory championed by some learned writers, but our observations lead us to believe that the bacteria present are not the agent or cause of our disaster, but are rather something which results from our mismanagement.

Causes.

As to causes, we have three principal ones, viz.: Unfavorable temperature, improper ventilation and low vitality of the eggs. First and foremost of these is the question of temperature. Anyone who has hatched many chicks, either with hens or by artificial means, finds some small percentage of defective chicks. It is evident from malformation of toes, neck, beak, or knee joint, that at some critical time in the development of these different parts, some circumstance intervened which caused an abnormal articulation, or joining of the different members making up the whole. We might say, in passing, that the great cause for such defects of frame is low temperature for that particular egg sometime during the first ten days. There are other causes, but this is chief. All the defects above mentioned do not constitute, necessarily, a fatal defect, however abnormal they may be. These then are the mildest forms of faulty development. When we break open the eggs which failed to hatch we find monstrosities of all degrees. Defects which would make it impossible for the chick to live even if it could free itself from the shell.

To sum up, we believe there is no part of the chick structure which is sometimes abnormal, but it is only the least extreme which are ever seen in the living chick. All the others more marked cause the death of the embryo, and the result is chicks dead in the shell.

High Temperature.

When the temperature reaches about 100 degrees, the action of the embryonic heart begins to approach normal rate of pulsation. Below that it beats slower as the temperature falls, while at 105 or 106 degrees the speed of its movement is something marvelous. Rate of pulsation is anywhere between 80 and 160 beats per minute, depending on extremes of temperature and stage of development. Now, if the temperature is kept constantly at 103 or higher, giving no time for rest, then the pace is too swift for some of the embryos and some more chicks are found dead in the shell. High temperature brings in a new train of malformation chicks which throw themselves on their backs, some with enlarged liver or having protruding entrails or unsorbed yolk sack. Here again it is only the least abnormal which hatch; the others die earlier. What is known as "sticky" chicks are usually the result of improper temperature together with bad ventilation.

Ventilation.

The next great cause is lack of ventilation. We wish to say that, with any standard incubator, run above ground, it is only when lack of oxygen is coupled with high or low temperature that we find the greatest destruction of chick life, either before having hatched or afterwards. Many a hatch would have been fairly good with but one of these unfavorable circumstances, but is now a total failure when both temperature and ventilation were at fault. Different incubators ventilated differently, and often we must aid the machine by airing the eggs for a short time several times a day. I have heard of some who fanned the air out of the machine; in other placed an air pump on top of the incubator and drew off the gas from the egg chamber. Work it as you will, an egg needs fresh air and must have it if strong chicks are to hatch. All defects in ventilation leave a deadly trail from the incubator to the brooder, when the final results are found. Some good hatches, as far as number is concerned, are handicapped by impurities from the incubator that no one can make them live.

Low Vitality.

The third cause, low vitality, results from debilitated parent stock, lack of balanced ration for the layers, or stimulating the hens with condiments. Eggs kept in a draught or kept too long are other causes.

We have tried to give the philosophy of chicks dying in the shell. There is no royal road to knowledge nor an easy one in any way, but I hoped that this article will help some in the study of the topic. We have spoken only in general terms and the bad effects of high and low temperature, poor ventilation and low vitality seems to overlap each other in the appearance of deformed chicks.

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The Farmer's Fowl

BY DR. C. E. WINSLOW, MONROVIA.
Written especially for the California Cultivator

In breeding Rhode Island Reds, Dr. Winslow has made a careful study of the utility and practical qualities as well as the fancy. He finds in them a bird for the farmer and the marketman as well as for the fancier.—Ed.

THE RHODE ISLAND RED is an American product to meet American requirements. It was originated by the farmer to satisfy the demand of the farmer for a fowl of a, with a good quality of flesh and better laying habit than the usual of fowls possessed.

New Englander.

For over fifty years the thrifty New England farmers along the coast of Rhode Island and Massachusetts are developing this great breed of fowls, by selecting the most persistent layers, especially those that supplied the market when prices were best. They selected them to strong, vigorous males, mostly the great Malay game cocks brought them by the sea captains from the Malay peninsula. There were numerous Cochin and Chittagong crosses and some introduction of pure Leghorn blood. This combination of the laying female and the strong game blood year after year brought a steady improvement in the breed until the Rhode Island Red became the greatest of winter egg-producers, as well as a superior table fowl, with an appetizing flavor to its flesh that surpassed by no other breed.

This American product asserts its claim of being the popular utility fowl of America. It has spread out from its New England home and is finding its way into the farm-yards of every part of the country. Whenever the Rhode Island Red has obtained a fast hold it has retained it in the face of opposition. In yards where it has come in competition with other breeds, competition has almost invariably given away to this progressive bird.

Practical Bird.

This coming fowl is a practical bird that brings in the dollars, no other fowl surpassing the Red in giving returns for so little care.

The Rhode Island Red is a good, not gross eater. As a rule it does not run to fat, although like a good layer, the more the Red hen eats the greater the returns.

This great utility bird is hardy, progressive and contented, and easy to raise. The pullet matures early, laying at five or six months, and once started at egg-making keeps it up summer and winter.

The hen lays as well at two years as when a pullet, is easily broken from laying and will usually begin laying again in a week, makes a good mother and in most cases furnishes eggs before her chicks are weaned.

Good for the Table.

The Red does not fat up behind as most of the larger breeds and is as clean-cut and trim at three and four years old as a pullet. The yellow skin and yellow leg, the color preferred by the housewife; long, plump body, containing an excess of white meat, and fine grained, closed textured flesh, colored by the game blood, makes the Rhode Island Red the ideal table fowl. The wonderful, growing popularity of the Red is proof of its valuable qualities, and that the Rhode Island Red is destined to become the leading fowl for the utility man as well as the fancier is a foregone conclusion.

Good Blood.

To give any breed a fair test the

best of blood must be chosen, for the poorest of the best may not be as good as the best of another breed. Cheap stock will most often give cheap results. This applies to chickens as well as to cattle and hogs.

To make a success with any breed

of fowl it must be given a fair chance. The surroundings must be congenial and the houses supplied with pure air, free from drafts and vermin.

Under these conditions the Rhode Island Red will thrive and prove the

greatest utility fowl of all breeds, by supplying an abundance of good sized brown eggs, summer and winter, and furnishing a table fowl whose richness and flavor of flesh cannot be excelled by any other breed.

MALES AND FEMALES OF DUCKS AND GEESE.

While there is a strong resemblance between the gander and goose, there are certain characteristics which are well defined. The head of the goose is smaller and narrower than that of the male, while

The same rules hold good with drakes and ducks of all varieties, and it is well to familiarize oneself with the cry of the two sexes, for in birds whose feathers are alike in male and female it is easy to overlook the other points of difference, but the cry of each sex is so dissimilar as to make an infallible distinguishing sign.—Rural World.

SOME USES FOR EGGS.

To clean vinegar bottles and cruets, crushed egg shells in a little water are as good as shot, besides being healthier and handier.

An egg well beaten and added to a tumbler of milk well sweetened, and



Some of Winslow's Rhode Island Reds.

the latter has a thicker neck and general masculine appearance. Perhaps the most noticeable difference is in the voice, that of the female being coarser and harsher than that of her mate.

two tablespoonfuls of best wine, is excellent for feeble, aged persons who can take little nourishment.

For boils take the skin of a boiled egg, moisten it and apply. It will draw off the matter and relieve the soreness in a few hours.

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Selecting and Mating the Breeding Pen

BY FRANK E. BALDWIN, OF SAN JOSE.
Written especially for the Cultivator

Mr. Baldwin's winnings in the show room have proven that he has made close study of mating and breeding White Leghorns. His birds are considered competent judges as being the true Leghorns.—Ed.

THE FIRST thing necessary in selecting and mating a breeding pen is to have a fair understanding of what we desire to produce.

Naturally we want to produce the best possible birds for the desired purposes. Why should we breed any particular variety of standard-bred fowls? Why not cross different varieties and get something better?

The answer is that crossing has been tried over and over again by amateur and professional breeders with varying success. Usually with results less favorable than the standard-bred fowls of today will yield in profit or pleasure. The standard-bred poultry of today is made up of the varieties which have stood the test of time. It is the survival of the fittest. We cannot afford to spend time or money with anything else.

The American Poultry Association, at great expense, has given us the American Standard of Perfection. To this book we must go to get our conception of what we want to produce before attempting to select the birds to compose our breeding pen.

By a close study of the Standard's requirements we can fix in the mind the type of bird we desire. The great law of inheritance is summed up in the simpler words—"like begets like." Qualities, good, bad and indifferent are transmitted alike.

From observation, it is laid down in the books as a fact that—"a descendant inherits one-fourth of the total of his qualities from each of his parents, one-sixteenth from each grand parent, one-sixty-fourth from each great grand parent and one-two-hundred and fifty-sixth from each great-great-grand-parent."

It follows that the number of inheritable qualities is very great. The offspring may inherit a portion of its qualities from each and every one of thirty ancestors.

These qualities, so inherited, may be of divergencies from the Standard in numberless ways. Hence, the need of starting with the best specimens obtainable.

Half The Pen.

The male bird is one-half the pen; the importance of having a good male to head the pen cannot be over-estimated. Some one to emphasize this point has said. "First get a good male, buy him, borrow him or steal him, but get him."

Next, have the pen composed of all the best females possible. While the male bird is one-half the pen, he is only half, the other half of our breeding pen must be made up of numerous females, each and every one selected for its individual merit.

From the way the offspring "breed back" to the undesirable as well as the desirable qualities of their ancestors it follows that the safest birds to put into our breeding pen must be those which have been carefully bred for a long time and from whose blood many undesirable qualities have been "bred out."

These are the only birds that can be relied upon to "breed true" to standard requirements—i.e. transmit a preponderance of desirable qualities.

In selecting and mating a breeding

pen we must decide, also, how many to put in the pen. This depends somewhat on the male and whether his intentions are well distributed, but, as a general rule for Asiatics 6 to 10, Americans 8 to 12 and for Mediterranean 10 to 15 will do.

Best Ages.

The age of the birds must also be considered. The best age is from months old for both male and female. At this age you know whether or not your birds are holding their good qualities. If they do you have safe breeders. If they do not hold the best qualities observed in them when cockerels and pullets they are not reliable breeders.

The next best plan to mate is to mate cock birds with pullets and cockerels with hens. In this mating, the large mature cockerels should be used with the adult hens and only large, fully matured pullets with cock birds. In some of the early maturing varieties, take the leghorn fairly good results come from mating fully matured cockerels with fully matured pullets.

Hens three and sometimes four years old, if particularly fine specimens, can be used in a breeding pen at which head is a vigorous cockerel.

Sometimes a cock bird 3 years old of a good specimen and in good condition can be successfully used in a small pen of fully matured pullets.

For Meat and Eggs.

In fowls kept for meat or eggs consideration must be given in selections for our breeding pen to performance of the birds themselves or their ancestors. In mating for meat production, select the rapid growers with strong constitutions.

In mating for egg production breed from those with strong constitutions whose ancestors and progeny are prolific egg-producers.

It is not necessary to breed from phenomenal egg-producers to get heavy laying birds. The phenomenal egg-producers are liable to exhaust themselves with heavy continuous laying during the last of the season.

On this point a breeding author says: "In general, a hen that lays hundred and fifty eggs a year is worth more as a breeder than one which lays several dozen more." How many of the minute horses have been known to beget two-minute offspring? There is a point beyond which phenomenal performance saps the constitution and renders transmission of such extraordinary qualities impossible. Compare the pen of the best, most typical, strongest birds obtainable and many eggs will result than in any other way. My prize-winning hens and pullets are my best-laying birds.

In selecting and mating our breeding pen we must also consider the relationship of the birds. The question is, shall we mate related birds or those which are of different blood?

In my own yards, I have three different strains of White Leghorns, all of which have been carefully bred for years and many undesirable qualities "bred out" of each strain, so that I do not have to "inbreed."

Continued on Page 576

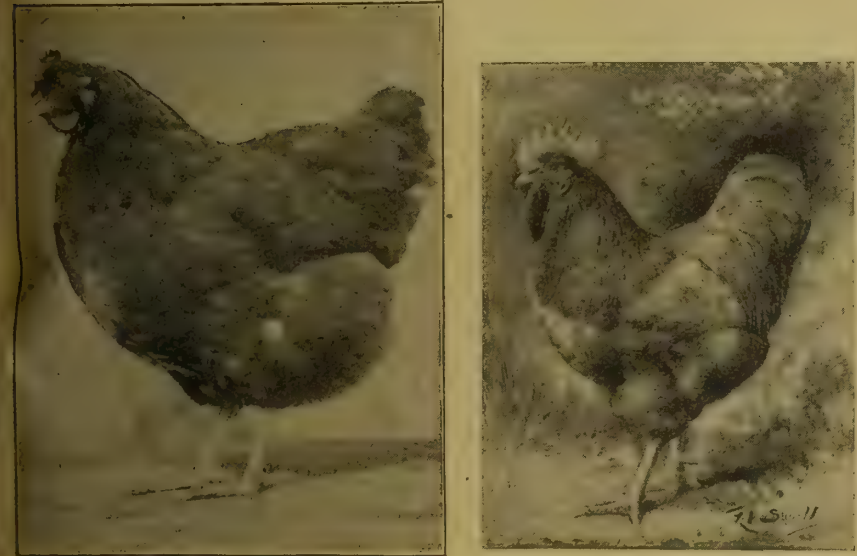
Single Comb Buff Orpingtons

BY W. S. SULLIVAN, AGNEW.
Written especially for the Cultivator

Mr. Sullivan was one of the first to take up the breeding of Buff Orpingtons, and his experience covers many years. He gives special attention to the utility as well as to the fancy points.—Ed.

IN THE Keeping of any variety of fowls where a revenue from them is the chief reason for maintaining a flock, the owner adopts his or her particular breed because of some qualities that appeal strongly to him. Many beginning in this line seek fowls for eggs alone, others finding a market for dressed carcasses need a bird with ample proportions that shall look well when their usefulness as layers shall have passed and they be turned to market. The strictly fancy or ornamental breeds are fast giving place to those that can be depended upon to give a return in dollars for the care bestowed. As many are engaging in the poultry business, a listing of the good qualities of each breeder's particular variety may be a help in selecting the one that may be best adapted to the wants of some inquirer. Location, feeds, available transportation and room to be commanded, all have to be considered in the selecting of the breed that shall be the one deemed best for the individual's particular use. Every breeder has his reasons for keeping

Hardy. Many parts of England the climate is damp and foggy, which is a trying condition on all classes of poultry, and as a bird originating in such a climate must have resisting qualities to hold them against the dreaded roup and kindred disorders of chickens, they appealed to the writer strongly. We are located where there is at times fog and dampness, but we have never had our flock out of condition from this and have found them the personification of health itself. Our birds have been shipped all over the country, from Montana to Arizona, and Honolulu, H. I. At the latter place they won in the show room after the sea voyage. From all localities alike come good reports of health and egg production. The Orpingtons, while not a non-sitting breed; are easily broken when broody, which fact makes them the layers they are, usually being cured in three or four days after changing the run and laying again in ten days. As a sample of the value of this breed when too old to be kept longer for egg-



A Fine Pair of Orpingtons.

his particular breed. The writer has his. Those keeping other kinds find their variety suited to them and among us all the one seeking to produce more of what California is sadly in need of—eggs and poultry meat—will find what will suit him best from descriptions given of our breeds as we find them.

History.

The history of the Orpingtons has been so often given that it is hardly necessary to mention it, but a brief description of them may be new to some; they are the result of mating together of the Buff Cochins, Golden Spangled Hamburg, and the old English Dorking, giving us a bird that has more than fulfilled the expectations of those who have adopted them for the quantities which Mr. William Cook of Kent, England, endeavored to combine. That is, large size with the egg producing qualities of the lighter breeds. The 200-egg hen is as common today among this breed, where they have been bred for eggs, as she is among the Mediterranean and just at this time of year it is a pleasure to handle as eggs are above 50 cents per dozen. They run into money very fast beside giving one the opportunity to hatch the early chick, which is always the one to "do best."

production, the writer finds ready market for all his hens, at from 85 cents to \$1.25 each. Fifteen cents per pound is a common price alive for such as are turned to market. Fertility of eggs is good alike in September or February, and hatching the year around as we do there is never the complaint of lack of eggs. California has imported between \$2,000,000 and \$3,000,000 worth of eggs and poultry meat in a year, any one with even a small lot at the back door and a few, good, pure blooded fowls might have a few of those dollars for themselves here at home.

Mr. H. C. Decker, of Burbank, made us a call today to renew his subscription to the Cultivator for at least the tenth time, he having first subscribed for the Cultivator "back East" over ten years ago. He says "no rancher can afford to be without the Cultivator, and that many and practical and valuable suggestions are worth many times its price." Josiah Colledge, of Santa Cruz, encloses \$1 for renewal of subscription and says: "I have been a subscriber for eight years, starting the Cultivator when in Corning. I like it very much and shall always be a subscriber to your paper, as it contains so much valuable information on all different topics."



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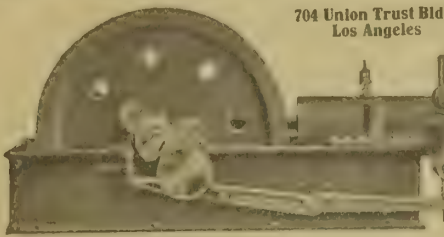
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ADMITTED IT.

As Gen. Benjamin F. Butler entered the lobby of the Boston State-house one morning he saw two men whom he knew engaged in a heated argument. "One moment, general," said one of them to him; "can't you settle a dispute? We were arguing as to who is the greatest lawyer in Massachusetts, and as we can't agree we will leave it to you."

"That's easy. I am," said Butler, with perhaps more truth than modesty.

The two men were somewhat taken aback.

"Er—er—but, general, of course—you know—but—how can we prove it?" the first speaker managed to get out.

"Prove it? Prove it?" growled Butler. "You don't have to prove it. I admit it."

THE LITTLE LEGHORN HEN.

They haint na feathers on their toes, they's yellow, bright an' clean; They haint no top-knot nuther, but a large, red comb is seen. They haint no size to speak of, but they lay so well you see, 'At the little Leghorn hen's big enough for me.

Some finds it discommodin' like, I'm willin' to admit, To hev only Leghorn hens an' they don't want to sit; But I've a patent egg machine an' brooder so you see, 'At the little Leghorn hen's good enough for me.

You kin smile, an' sneer an' giggle, an' turn yer nose up some, An' laugh, an' holler "a Leghorn hen's no bigger 'an my thumb." If big hens suits you better, why you jes keep 'em; I'll agree, But the little Leghorn hen's big enough for me.

"We can't both marry her, so we shall have to come to some understanding."

"What understanding?"

"You take the girl, and I'll have her money."—Frazzli.

Winners of Mission View Poultry Ranch

At the Los Angeles County Poultry Association Show, Dec. 7-14, 1907: White Wyandottes, 1, 2, 4, 5 cks; 1, 2, 3, 4 ckl; 1, 2, 3, 4, 5 hen; 1, 3, 4, 5 pul; 1, 2, 3, 4, 5 pen; Mammoth Bronze Turkey—1 adult, 1, 2, 3 yearling; 1, 2 young tom; 1, 2, 3, 4, 5 hen; 1, 2, 3 pullet. Pekin Ducks—1 old drake, 1 young drake, 1 old duck, 1 young duck. Lakenvelde—1 ck., 1 hen, 1, 2 pullets. Pearl Guinea—1 ckl., 1 pullet.

Out of thirteen possible specials I won ten as follows: The Times cup for best display of White Wyandottes, the Los Angeles Produce Exchange \$50.00 silver cup for best display of table fowl, the Henry Albers loving cup for best pen of White Wyandottes, Harper & Reynolds Company's handsome carving set for best display of White Wyandottes, the Superintendent's cup for best display of any one exhibitor of any one breed, a California incubator for best display of turkeys, the Association cup for best White Wyandottes, the National White Wyandotte Club cup for best Wyandottes, all the National Wyandotte Club ribbons for best cock, cockerel and pullet; and in the competition open to ladies only cut glass vase for hen and ten chicks in a large breed; and cut glass salt and pepper shakers for best bantam hen and five chicks.

I had the largest exhibit of White Wyandottes ever made on the Pacific Coast by any one exhibitor. I raise all my birds and keep forty breeding pens and all my hens are trap-nested.

All clear eggs replaced if returned within 9 days' express prepaid; \$5.00 per 15 eggs; \$8.00 per 30 eggs; \$11.00 per 50 eggs; \$20.00 per 100 eggs; \$30.00 per 200 eggs. In lots of 300, \$12.50 per 100 straight. No eggs replaced. Only one order of 300 eggs to one party within a month.

All clear eggs replaced if returned within 9 days' express prepaid. \$3.00 per 15 eggs; \$5.00 per 30 eggs; \$7.00 per 50 eggs; \$12.50 per 100 eggs; \$20.00 per 200 eggs. In lots of 300 eggs and up \$8 per 100 straight. No eggs replaced.

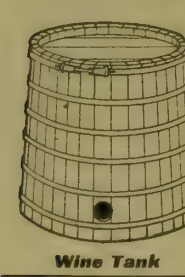
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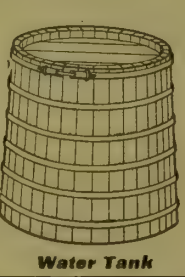
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Barred Rock Ranch Of Chas. E. Smith of Gardena, Cal

Photos and Description by Frank H. Thomas.

TO GET out an issue devoted to poultry and not have a chapter on Barred Rocks, would be like having Thanksgiving dinner without turkey and cranberry sauce, or a circus without "red lemonade."

I often wonder if Mr. Orphum had any premonition of the popularity of the Barred Plymouth Rock when he exhibited and named them away back in 1869. Whether he did or not makes but little material difference



Barred Rock Cock.
In First Breeding Pen.
Owned by C. E. Smith, Gardena, Cal.

now. But it does seem strange that as the Pilgrims were our earliest English settlers and staunchest American citizens, that one of the earliest of the American breed of fowls should be named after the place at which they landed and that they too should prove the most popular and sturdy of all of the American breeds.

The popularity of the Barred Rock reaches from the Atlantic to the Pacific; from the bay to the gulf. They are more widely bred today



Barred Rock Cock.
Los Angeles, 1907.
Owned by C. E. Smith, Gardena, Cal.

than any fowl of any variety known to mankind.

The Barred Rock is a fowl for the farmer who wants a bird to forage and rustle for itself for the market man who wants a rapid-growing, plump carcass for his customers, or the fancier with the most progressive or artistic taste or ideas, the Barred Rock is all that can be desired.

To successfully breed Barred Rocks takes more study, hard work and patience than any other breed in the American standard today. There are but few who seem to have the faculty to establish a strain of these birds that will reproduce themselves

to any marked degree. But in Chas. E. Smith, of Gardena, I found a man who seems to have solved the problem of mating and breeding his birds to such an extent that they will reproduce themselves.

Something over a year ago I visited his ranch. At that time he had good birds, yes, very good, so good, in fact, that I asked myself the question, can he mate those birds so they breed better next year, or is it a chance mating. Last week when I visited his ranch and saw his birds, the question was settled, for he has better birds today than his matings produced last year.

Mr. Smith has made a marked im-



Barred Rock Hen.
In First Breeding Pen For Three Successive Years.

provement in the male birds. His males have a uniformity of color and shape that characterize his strain, and stamp them as one of the leading strains of the Pacific coast. (His hobby seems to be: "Birds barred to the skin with good head points.")

Last year was the first time Mr. Smith ever exhibited at any show, but he was successful. More so than he ever dreamed of. He won more prizes than all other exhibitors combined, and this in the strongest competition ever witnessed on the Pa-



First Prize, Barred Rock Cockerel.
Los Angeles, 1907.
Owned by C. E. Smith, Gardena, Cal.

cific coast, comprising 230 specimens. Winning the coveted prize of a silver cup for the best pen in the show, all breeds competing, beating birds from the yards of the most noted breeders East.

Mr. Smith breeds Barred Rocks on the large scale, having fifteen acres in his ranch, much of it in alfalfa, which affords free range for his young stock, thus ensuring health and vigor.

Any admirer of this breed will be ranch, or if in need of stock or eggs, to correspond with him.

Pigeon Breeding

BY WILBERT E. FOSTER, FILLMORE, CAL.
Written especially for the California Cultivator

No man in California has had more successful experience in breeding pigeons or is better qualified to give the readers of the Cultivator advice on breeding and mating than Mr. Foster.

FROM the uninitiated the query often comes, of what good are pigeons? Then they try to answer the question for themselves, by saying they are only a nuisance and of no good at all. The parties so speaking are generally giving their experience with a few common pigeons tolerated somewhere about the place where they could roost on the harness, shifting for themselves, producing a few measly squabs in a dirty box or set of boxes placed just where they ought not to have been placed.

While I am a lover of pigeons, I will admit that under such conditions they would, indeed, be a great nuisance, and as such be done away with; but on the other hand pigeons can be placed on a paying basis on a small city lot or on a large scale at a suburban home, while on a ranch they can be made to become a valuable asset. In fact, I doubt if there is any more money to be made out of poultry than can be made out of pigeons placed under good management.

There are two purposes for which pigeons are bred: One called mercantile breeding; that is, breeding them to produce squabs for market. The other termed fancy breeding, which is taking some variety and so mating them that each year they will come nearer reaching a recognized ideal. Either purpose, if correctly carried on, will give good financial returns.

Breeding for squabs must be understood for good results; so must breeding for the fancy and, unless one has served his apprenticeship, I would advise him to go slow until he has given the subject some study. The starting of too large a loft by an amateur has often been the rock that sunk the ship of many who would have made a success of the business had they started more moderately.

In squab breeding, the best place to start is on a ranch, not necessarily a

large one, but a place away from the city where there is room for sheds and aviaries. All birds should be confined there according to the understanding one has of the breeding of the pigeon. The start can be made free from molestation of city laws and other hindrances. The situation should, by all means, be near a good market; fifty or even eighty



miles is not too far away. The stock should be chosen for the purpose in view. If for a general squab business at so much a dozen to the ordinary trade, Homers will do. If for select trade, which, of course, always brings a higher price, the Maltese hen, or the Maltese hen crossed on the Runt pigeon will be better.

The houses need not be expensive, but large enough to avoid crowding, and warm enough to be comfortable at all seasons of the year. A good place is to have it so arranged that warm nights it could be left open and on cold nights or stormy weather be closed.

I knew a Homer breeder who sells stock to start others in the squab business who says that a box against a barn wall is all O. K. for squab breeding. But I never knew anyone taking his advice to succeed. The

birds must be comfortable under all kinds of weather.

Fifty pair of birds will do well in a breeding house 10x20, shed-shape, and not less than six feet high at its lowest place; there should be an aviary not less than 20x30 of same height. The young should be taken away at four weeks of age for market, but left longer or until weaned if kept to maturity.

The feed should be a balanced ration of wheat, corn, Kaffir corn and Canada peas, which should be fed in a hopper. Water for drinking, pure and cold should always be given them from a fountain made for such purposes. A pan for baths should

also be handy and used twice each week or oftener, if convenient.

Twice each week, make it once in the forenoon and once in the afternoon, so that each sex can get its bath. The hens set all night and until nearly noon, then the cocks relieve them until evening. The more often a bath can be given the better, but the birds should not be allowed to drink the water to any great extent after bathing begins.

These rules apply in a general way to the fancy breeds, except that so many pairs should not be kept together, as fancy pigeons are, as a rule, more tender and will not stand the crowding and jostling that the squab breeders will. In starting in for fancy birds the first thing to determine is the variety, or varieties you desire to keep. Having decided this, buy your stock from a good

fancier and expect to pay a fair price for it. Don't expect birds to give general satisfaction purchased from huckster dealers and Tom, Dick and Harry. It is better to start with fewer birds and good ones than inferior stock and more of it. I am talking now from a view of making money, and poor stock won't do it. If some one tries to sell you birds at \$1.00 per head and says they are fine, it is better, as a rule, to steer clear of the birds and let him breed them himself. Of course, there are chances where a bargain can be obtained, but family or strain breeding counts. So I say again, buy from a fancier of repute, pay him a fair price and expect good results. Good stock birds cost from \$5.00 to \$25.00 per pair according to variety and the clearness of the points developed in the specimen. For instance, suppose you are buying Pouters; the party with whom you are dickering describes two birds, both black pied; maybe from the same parents. One, he says, is a little close in crescent, little gay on wing and foul in thigh, with good length, slim girth and well set on legs; value \$5.00. The other fair crescent, nice wing marks; thigh, fairly clean, otherwise about like the other bird; value \$15.00. The difference in price is there because of the better marking, and still he might not breed any better than the cheaper bird. But he is more apt to, but it is also influenced by the bird to be mated to it. If money is to be made, as I said before, it cannot be done on cheap stock.

Don't try to keep too many breeds. Confine yourself to a very few. I would advise no more than two varieties. Study their points; how to mate for best results, never mating two birds together with like faults, but cross the faults. A cock being off on one thing with a hen very pronounced in its perfection and off where he is good. This will, in well-bred birds from good families, give a fair per cent of good youngsters. The knowledge of a bird's ancestry is important in mating. That brings us back again to a good loft where you can either see the birds or get a description of them.

Having get properly started, watch
Continued on Page 591

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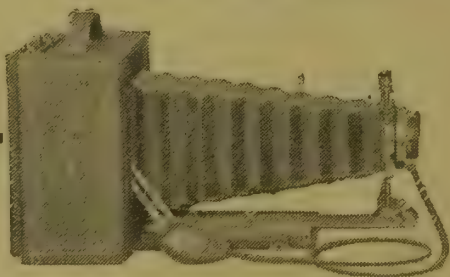
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A Fine Poultry Ranch

A Visit to M. E. Dillingham's Abbott Place, Where White and Buff Wyandottes, Golden Sebrights and Buff Cochin Bantams Are Bred for Fancy and for Utility

Photos and Description by Frank H. Thomas.

DRIVING east on Clarence Boulevard from San Gabriel one of the first places to attract attention is Abbott Place, the home of M. E. Dillingham, breeder of White and Buff Wyandottes, Golden Sebrights and Buff Cochin bantams. Abbott Place, comprising ten acres, is admirably situated and arranged for poultry, being set to walnuts

Stock.

When Mr. Dillingham bought his foundation stock he put no limit as to price, the only stipulation being quality. Therefore, in his yards are noted prize winners from such shows as Madison Square Garden, Chicago and the World's Fair at St. Louis. Mr. Dillingham has always been a strong exhibitor at the Coast shows and takes a great interest in the Los Angeles county show.

In White Wyandottes, Mr. Dillingham is especially strong; his birds have the true Wyandotte shape and are pure white. One thing we noticed particularly, was the size of many of his birds being over weight, which is one of the best faults for breeders. His buffs are an even lot, as Mr. Dillingham culls close and only keeps birds that are the right



White Wyandotte Cock
 Owned by M. E. Dillingham, San Gabriel, Cal.

with orange, lemon and small fruit trees for variety.

Back in England for over fifty years the name of Abbott has been prominent as breeders and exhibitors of standard-bred poultry. Therefore, when we mention Abbott Place, fanciers and breeders of standard bred poultry are naturally interested. Several years ago when Mr. Dil-



White Wyandotte Cock
 Owned by M. E. Dillingham, San Gabriel, Cal.

color, always keeping in mind quality and not quantity. We have noticed his birds for several years and each year shows an improvement over the previous year, which proves that he understands the art of mating to produce color and shape.

Sebright Bantams.

In Sebrights is where Mr. Dillingham shines. It may seem strange to



Buff Wyandotte Cock
 Owned by M. E. Dillingham, San Gabriel, Cal.

lingham "took down" with hen fever, he did some figuring and planning that he might lay out a plant that would be second to none in Southern California. He settled on the colony-house plan, and his houses are what we call semi-open-front plan, which gives almost a perfect ventilation. Yards.

In yards Mr. Dillingham has been very liberal in arranging them, as each yard is large, (32x36 feet) giving ample room for his birds. In each yard he has planted a fig, a mulberry and orange tree for shade. The fruit from these trees makes splendid food for the stock. Water is also piped to each yard, thus reducing labor to the minimum. Besides these yards he has larger yards or range sown to alfalfa so arranged that a flock can be turned on range each day, thus adding much to the health and vigor of the flock.



White Wyandotte Hen
 Owned by M. E. Dillingham, San Gabriel, Cal.

some that a man with such miniature proportions as Mr. Dillingham should take such a liking to these little pets. In Goldens we consider he has the strongest line on the Coast, as birds in his yards have won at Madison Square Garden and at the last Los Angeles show, which was the strongest class of Sebrights ever exhibited in the West.

I am glad to be able to present such a number of excellent reproductions of birds made from photos taken of Mr. Dillingham's birds. The cuts were made without any retouching, and show that he has the correct idea of the true type of birds.

Poultry Culture at California Polytechnic School

BY ALFRED LUNN, CALIFORNIA POLYTECHNIC SCHOOL.
Written especially for the California Cultivator

The work which California is doing for its boys and girls in giving practical culture is to be commended and encouraged. That work done by the California Polytechnic School at San Luis Obispo, is the only work of its kind in this State. At this school not only shop work, dairy and general farm work is taught, but a special course in poultry culture is in charge of Mr. Lunn, who writes for us the following article.—Ed.

THE DEPARTMENT for instruction in poultry culture in this school was organized in 1905, and the writer took charge of the department in the fall of 1906.

It might be well at the beginning to tell something of the Polytechnic school, its object and work, for the benefit of those who have not come



Alfred G. Lunn.

poultryman California Polytechnic School

in contact with anyone connected with the school's work. The Polytechnic school is a State institution, and is a secondary school of agriculture, mechanics and household arts, students being admitted after completing the work of the grammar grades, or upon

are not only interesting to him now, but will be of great service to him in after years.

Five Acres to Poultry.

Poultry culture is a part of the agricultural course and all first-year men have to take at least two terms of instruction in this work. For the use of the department the trustees have given about five acres of land, upon which there have been erected different types of colony houses. Each house is in a separate yard 40x180. There is also a feed house, and a brooder house which has been erected in such a way as to enable its being used for brooding during the hatching season and as a laying house during the balance of the year. There is now being constructed an incubator cellar, which, when completed, will be one of the finest in the country. There are also a number of incubators and brooders for the use of the students.

Some Theory—More Practice.

About half of the student's time is devoted to theory in the class room, a number of lectures are also given on the history of the breeds in order that the student may become familiar with the different crosses that were used to produce our standard-bred poultry. Another line of work taken up in the class room is a study of feeds and feeding, and the balancing of

near-by poultry plants where students will be given a chance to see the different methods that are being used on practical plants.

Worth Increasing.

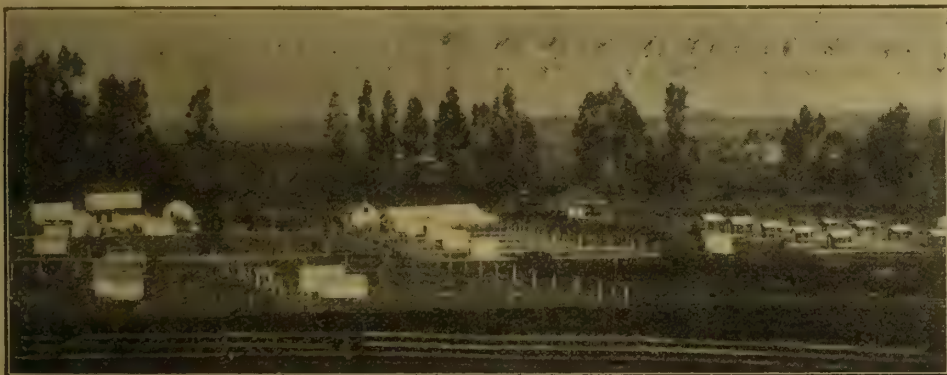
It has been the hope of those connected with the school to increase the agricultural course from three years, as it is now, to four; this would enable us to give poultry culture throughout the three years and a fourth year could be taken by those who wish to go out as poultrymen well-fitted to manage and act as foremen on large plants.

The Only One.

The Polytechnic School is, at the present time the only institution in the State where instruction is being given in poultry culture. The poultry industry should be the leading branch of agriculture, and our poultrymen and poultry associations should co-operate with their State in the upbuilding of the industry. It would be a good plan if a pen of chickens could be placed on the grounds of every country school throughout the State, and in so doing I think would create a love for nature that is so lacking in the average school boy.

GREEN CUT BONE.

One pound of cut bone for a dozen hens once a day, which should not cost over one cent a pound, will produce more eggs than five times as much grain, because the cut bone is complete in egg-making substances, while the grain is largely deficient in many respects. Some persons affirm that it does not pay to procure a bonecutter for small flocks. That is a mistake. Bone-cutters are now cheaper than many ordinary garden tools, and are strong, durable and efficient. The cost of the bone-cutter is soon regained in the increased



California State Poultry Experiment Station, Petaluma, Cal.

examination, which is given on subjects covered by the grammar school.

location.

The school is located about a mile from the town of San Luis Obispo and can be seen from the main line of the Southern Pacific Railroad. For the use of students in agriculture the school owns about three hundred and twenty acres of land, part of which is now under irrigation; there is also an orchard and vineyard. The school also owns a good stock of thoroughbred horses, cattle, hogs and poultry.

Too much cannot be said of the good the school is doing. We have our own State and throughout the United States agricultural colleges, where men are prepared for teaching and for higher work, but here at the Polytechnic School you will find the boys who are to go back to the farm and do the actual work, the boys who are to be the future farmers of our State. The young man who would probably have left school after finishing the grammar grades now has a chance to continue his study and to do things with his hands, things which

are not only interesting to him now, but will be of great service to him in after years. Lectures are also given on mating, breeding, and judging, attention being given to the judging of birds of utility purposes rather than fancy points. Drafting is also a part of the student's class-room work; drawings are made of different types of poultry houses and appliances, also the laying out of poultry plants.

The balancing of the student's time is devoted to practical work in the poultry yards. Each student operates an incubator and rears a brood of chicks; of all this work accurate records are kept and the student has a chance to study different methods of incubating and brooding. Instruction is also given in preparing birds for market; this covers the fattening, different methods of killing, dressing and packing birds so that the best prices can be obtained in the markets.

Caponizing is also taught and each student performs the operation himself.

Poultry plant construction is one of the leading features, and the student is required to lay out and build poultry houses and appliances. To assist in this work excursions will be taken to

number of eggs laid. It is almost indispensable to success, no matter how small the flock, for no one should keep a flock unless fully determined to secure the largest profit possible. The great saving of bones and meat and the utilization of materials that could not be appropriated as food for fowls without their use have given green bone-cutters a place on all well-regulated farms. They are sold at from \$5 to \$10, a price which places them within the reach of all, and they have added to the profits of poultrymen, farmers, butchers and poultry supply houses.—Mirror and Farmer.

Any of our readers can secure a valuable cook book, famous for its recipes for delicious "quick meal" dishes, by writing The Enterprise Mfg. Co., of Pa., 240 Dauphin St., and asking for it. This book, though published to be sold at 25 cents, will be sent free to our readers. It contains more than 200 splendid recipes and many helpful kitchen suggestions.

WELCOME VISITORS.

Your paper is a very welcome weekly visitor, and wish you the very best of success in the future.—H. M. McLennan, Fresno.

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Golden and Silver Polish

Red Pyle Game

Silver Sebright

and

White Polish Bantams

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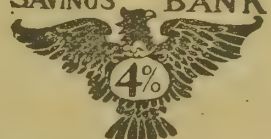
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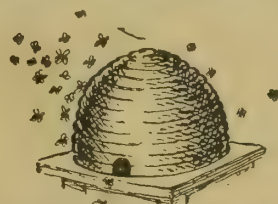
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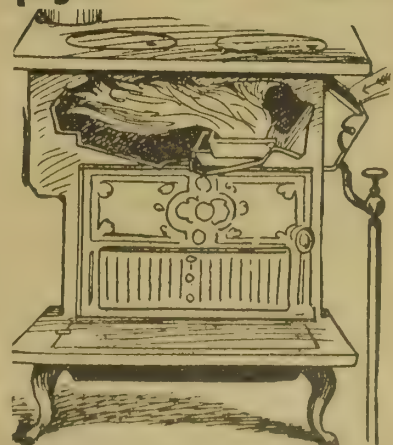
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The Orpington Reservation

Were the Orpington Winners

At the Great Los Angeles County Show

16 Regular Prizes

1st, cock; 1st, 2nd, 3rd, cockerel; 1st, hen; 1st, 2nd, pullet.

1st and 2nd, pen; on Black Orpingtons.

1st, 2nd, 3rd, cockerel; 1st, 2nd, pullet; 1st, 2nd, pen; on Buff Orpingtons.

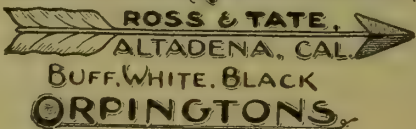
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Association Trophy, silver coffee service for best display of 10 pullets, won with 10 grand Black Orpingtons.

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Won at the great Los Angeles County Show as follows

1, 2, 3, 4, 5, cocks; 1, 2, 3, 4, cockerels; 1, 2, 3, 4, 5, hens; 1, 2, 3, 4, 5, pullets; 1, 2, 3, 4, 5, pens; 4 for best 10 pullets in show, all breeds competing; Live Stock Tribune cup for best cock; hen, cockerel and pullet in American class; White Rock Cup for best display; C. C. C. Tatum cup for best cock, cockerel, hen and pullet. German Cup for best pen. Stock and eggs for sale.

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Thoroughbred White Plymouth Rocks

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Jubilee Incubator Co., Sunnyvale, Cal.

Starbuck's Barred Plymouth Rocks

We trap next our hens. Why set from poor layers? Bird laying qualities are inherited the same as any other. This year we have discarded all old matings and have gone to the next generation. Cocks have 9 generations of 200 egg mothers. Hens are from 200 egg mothers and are laying fine. We have divided into pens according to the way they are showing up in four months laying. \$2.00 for 13 eggs from first pen, \$1.00 from 2nd, until they have time to make longer records. (Except from one best, \$20 for 13.) Same records for cocks. No Sunday sales or visitors.

Wm. Starbuck & Son, Fullerton

Nineteenth Annual Show

A Corrected List of the Awards Made
at the Exhibit of the L. A. C. P. A.

IT IS, indeed, a pleasure to attend the show of the Los Angeles County Poultry Association now in session in this city and simply watch the expressions on people's faces. I am not carrying the idea, I hope, that the birds on exhibition will not also give pleasure. But for a fact, people seem to get more genuine pleasure from this show than any I ever attended.

Almost invariably they say "well, I never saw so many exceedingly fine birds in one show before." And it is a fact, that alley after alley may be traversed and no poor specimens seen. It's an all 'round good show. So it's a pleasure to look at the people look at the birds.

The show is not so large as that of last year; that is, not as large in numbers of birds. There are only about 1200 entries. Last year it was nearly 2000. But I believe if actual valuation were placed on every bird exhibited this year and those of last year, the valuation of this year's exhibits would excel those of last by as great a percentage as is that of the excess of numbers of last year over this year's numbers.

There are a number of strong points in the show. It has the largest exhibit ever made in the State of one variety by one exhibition. Mrs. Hubbard's exhibit of 150 White Wyandottes or two big two-horse wagon loads is a magnificent showing of our exhibitor's ability.

The exhibit of Bantams is said to excel any yet made on the Coast. They are great in numbers and of high quality. They are all little beauties.

The turkey class is fairly well filled. Ducks and geese are less prominent.

But the cage of song and ornamental birds, which is near the front and in plain view of the passerby, keeps a crowd on the street all the time.

Financially, it's a winner, for the gate money is now rolling in so satisfactorily that Secretary Hubbard smiles as happily as if he had his mustache back.

The officers of the association are: W. L. Sly, president; John D. Mercer, vice-president; Harry E. Rose, treasurer; C. D. Hubbard, secretary.

Tyler's Opinion.

Mr. Tyler, who judged several different varieties, briefly outlined his opinion of the exhibits as follows:

"White Rocks, as a class, were exceptionally good. The old males were the equal of anything I have handled on the Coast in twenty-six years. The females were fine in shape, but would have shown better if the feathers had been more ripe. They were almost perfect in shape, with long keel and back which go to make the fowl of today. The first-prize pullet was fit to go to any show in America. I have never seen anything superior to the first-prize pen.

"The Buff Rocks were mostly shown by one man. They were a good class, even in color, Rock shape, and I believe should be more encouraged on this Coast.

"Blue Andalusians was a small class, but were well up in the standard qual-

ties that make up the Andalusian. This is another breed which I believe should have more encouragement on the Coast, and probably superior to any shown in America. They are a bird that the owner when traveling through the Rivera with his friend met them on their native dunghill where they have known them to have been bred for over 1000 years. Black Spanish are classed with the Mediterranean variety, the Leghorns, Minorcas, and no doubt he is one of the ancestors. There is no question that an egg producer of large white-shelled eggs so admired by the connoisseur for his breakfast table they are winners.

"Twenty-six years I have judged on the Coast, beginning when William Niles and Chicken Brown showed in box back of Agricultural Park. I have followed year by year the progress of the poultry industry, and while we have lots to learn yet, we are getting there, which the present show indicates. I will say the quality of the birds is equal and is a little superior in some classes, especially the ornamental classes, which should be more encouraged by all fanciers, of anything heretofore shown. As a judge of the show, and for many others since '66 I have been in America.

"I would like to see birds classified and should I be again called upon I judge would insist upon having the birds classified, so I will not have to spend so much of my vitality walking about to make comparison."

Judge Thomas Says:

The Cornish Fowl class, consisting of over 70 birds, was by far the best ever exhibited on the Coast, and I believe equal to any ever exhibited in America, as a number of birds were here that had won at many shows in England. The winning birds were the low-down blocky type that only the English know how to breed.

The first-prize cock was the true type of the breed; he was a winner from Manchester, England, before being shipped to America; was broad and massive, yet had the style, finish and carriage of a true exhibition specimen. He was one of the largest-boned birds we ever saw, and as hard as nail. The first cockerel was a son of the first cock; was a grand bird, and the very essence of perfect color. The second cock was an American-bred bird, splendid color, good carriage, ought to make a good breeder. The winning hens and pullets were good, not a bad bird in the lot; large, typical birds.

We are glad that this breed is coming to the front, as they are among our best table fowl and deserve a chance to prove their mettle.

The Golden Sebright Bantams were no doubt the largest and best class ever exhibited at a Coast show. The first cock and first hen both won first at Madison Square Garden show. The first cockerel and first pullet were both California-bred, and were high class specimens, and very small. Taken as a whole, the class was good.

The White Polish Bantams was

large class and contained many good specimens. The first cockerel was very small specimen, and the true Polish type. The first hen was a splendid bird, carrying a large, well-rounded crest.

The Bantam class as a whole contained many good birds, and no doubt was the largest collection of those little pets ever exhibited in California, and made a show of itself.

Barred Rocks Fine.

Mr. Nash, in speaking of the Barred Rock class, which he judged, said: The display was not as large this year as usual, which was probably due to the fact that the price of entry had been advanced from 50 cents to 1 per bird. While this cut out quite good many birds, it eliminated only the class of birds we do not care so much about in the showroom—that is, some of the poorer ones. As a class, here were some very fine birds, as good as would probably be shown anywhere in the West. The hens and pullets averaged much better than the cocks and cockerels. It seems to me that the breeders, generally, make a mistake when they do not show more birds, for very often in their hasty making up of the exhibit they leave one of their best birds at home."

Logue's Classes.

Mr. C. L. Hogue judged several classes of birds, and briefly gave us his opinion of them as follows:

"The Single Comb Black Minorcas were one of the finest classes in the show. We have much better birds than we had last year, and while there are not quite so many exhibited, the quality more than makes up for this. The class of Minorcas is as good as I have ever judged in the show. The first-prize cock has not his equal, I would venture to say, in California, and too much cannot be said for him. The Rose Comb Black Minorcas were a small class and not very good.

"The Buff Wyandottes were a very good class, especially the cock bird. It took the first prize. He was one of the finest birds I ever handled, and the first-prize pullet was an exceptionally good bird. Taken as a whole, they were an even, good exhibit, there being few poor birds in the class.

"The Silver Sebright Bantams were a good a class as I ever had. The first cock and first hen were two splendid birds, and the rest of the exhibit was remarkably good.

"Black Breasted Red Bantams, which was a small class, contained some as good birds as was ever shown here. The first-prize cock I do not think has his equal anywhere, and the first-prize hen and first pen were splendid specimens. They were all good birds, but these three exhibits particularly were worthy of special mention.

"The Buff Cochins were a good class and contained some fine birds. The first pullet was exceptionally good.

"The Partridge Cochin class was a small one, but there were some good birds.

"Black Wyandottes were another small class, but good, especially the first-prize pullet."

"The Red Caps were a small class of very good birds. These are the first to have been shown in Los Angeles for many years.

"Light Brahmas were another rare class, which was made up of some good birds.

"Black Langshans were a good class, it not a large one.

"Brown Red Breasted Game Bantams were the first that were ever shown here, and they were good.

"Taken as whole, the birds in the classes which I judged show a decided improvement over last year's birds, and show that they have had careful breeding and treatment during the past year."

Best Ever.

Mr. Browning of Ogden, Utah, and Mr. H. Berrar, of San José, judged their classes together, and in giving the Cultivator their opinion, both said:

"There were some very fine White Wyandottes, many of which went by unnoticed, owing to condition. White birds should be exhibited white and clean, and not covered with dirt, for few people can tell when birds are all dirty whether they are red, black, or green underneath. There is one thing that the Wyandotte breeders should keep in view, and that is that the Wyandotte is one of the shortest birds that we have, and to keep as far away from the Plymouth Rock shape as possible. There were a number of typical Wyandottes went by unnoticed, which if they had been properly shown would no doubt have been among the winners. Competition is getting too keen to show Wyandottes in a haphazard way. They were a very strong class.

"Buff Orpingtons were not as strong as last year, though containing many birds of quality. The Black Orpingtons were very good, especially in the cocks and cockerels. The type of the Buff Orpingtons was more uniform than any other variety in the show.

"The Rhode Island Reds were a very good class, about the best that has ever been shown in any Southern California show. The first cockerel was one of the best ever shown.

"The Partridge Wyandottes were a fair class.

"Buff Cochins Bantams were a very fine class.

"The Red Pyle Game are really world-beaters, and they are the best ever shown on this Coast, and we believe ever shown in the United States.

"While, of course, the number of exhibits is not so large as last year, due to the increase in price of entry fee, yet the quality, we think, is far superior."

The Awards are:

BARRED PLYMOUTH ROCKS—1, 4, 5 ck; 1, 2, 4, 5 hen; 1, 2 ckl; 1, 2, 3, 4, 5 pul; 1, 2 pen, C. E. Smith, Gardena; 2, 3 ck; 3 hen; 5 ckl; 3 pen, Fred Espee, Los Angeles.

WHITE PLYMOUTH ROCKS—1, 3, 4, 5 ck; 1, 3, 4 ckl; 1, 4, 5 hen; 1, 3 pul; 1, 2, 3, 4, 5 pen, Arthur J. Little, Monrovia; 2 ck; 3 hen; 2, 5 ckl; 2, 5 pul, Mrs. Amelia W. Sly, Hollywood; 2 hen; 4 pul, E. E. Emerson, Los Angeles.

BUFF PLYMOUTH ROCKS—1, 2 ck; 1, 2, 3 hen; 1, 2, 3, 4 ckl; 1, 2, 3, 4, 5 pul; 1 pen, Fred Esterwold, Pasadena.

WHITE WYANDOTTES—1, 2, 4, 5 ckl; 1, 2, 3, 4, 5 hen; 1, 3, 4, 5 pullet; 1, 2, 3, 4 ckl; 1, 2, 3, 4, 5 pen, Mrs. C. D. Hubbard, San Fernando; 3 ck; 5 ckl, M. E. Dillingham, San Gabriel; 2 pul, S. H. Church, Los Angeles.

COLUMBIAN WYANDOTTES—1 ck; 1 hen, A. H. Memmler, Los Angeles; 2 hen; 1 pul, Dr. W. J. Barlow, Sierra Madre.

PARTRIDGE WYANDOTTES—1, 2 ck; 1, 2, 3 hen; 1, 2, 3, 4, 5 ckl; 1, 2, 3, 4, 5 pul; 1, 2 pen, C. L. Hogue, San Gabriel.

BLACK WYANDOTTES—1 ck; 1, 2, 3, 4 hen; 1, 2, 3, 4 pul; 1 pen, C. F. Jones, Hollywood.

BUFF WYANDOTTES—1, 3, 4 ck; 1, 2, 3, 5 hen; 1, 3 ckl; 2, 3, 4, 5 pul; 1, 3 pen, M. E. Dillingham, San Gabriel; 2 ck; 4 hen; 2 ckl; 1 pul; 2 pen, T. T. Gardner, Gardena.

GOLDEN WYANDOTTES—1 ck; 1 pul, Harry Robson, Sherman.

RHODE ISLAND REDS—1 ck; 2 hen; 3 ckl; 1 pul; 2 pen, Lake Avenue Poultry Yards, Pasadena; 1 ckl, Goodacre Bros., Compton; 2 ckl; 1 pen; 4 pul, George A. Poultier, Ogden, Utah; 1, 3 hen; 4 ckl; 5 pul; 5 hen, W. F. Cleveland, Los Angeles; 2, 3, 4 ck; 2 pul, Henry Dockweiler, Los Angeles; 5 ckl; 3 pul, J. I. Jefferson, Los Angeles.

BLACK ORPINGTONS—1 ck; 1, 2, 3 ckl; 1 hen; 1, 2 pul; 1, 2 pen, Ross & Tate, Altadena; 3 pen; 2 ck, Goodacre Bros., Compton; 4 ckl; 5 pul, Mrs. A. J. Gies, Los Angeles; 3, 4 pul; 5 ckl, M. E. Cowles, Gardena;

3 ck, Dr. W. J. Barlow, Sierra Madre.

BUFF ORPINGTONS—1, 2, 3 ckl; 1, 2 pul; 1, 2 pen, Ross & Tate, Altadena; 1 ck; 1 hen; 3, 4 pul; 3, 4 pen, Goodacre Bros., Compton; 5 pul, Mrs. Alice T. Lloyd, Los Angeles.

JUBILEE ORPINGTONS—1, 2, 3 hen, Dr. W. J. Barlow, Sierra Madre.

BLACK LANGSHANS—1 ckl; 1, 2, 3, 4 pul; Foster Poultry Yards, Los Angeles; 1 ck; 1 hen, Alfred Bretz, Los Angeles.

LIGHT BRAHMAS—1 hen; 1 pul; 1 pen, W. T. Blakeley, South Pasadena.

BUFF COCHINS—1, 2 ck; 3 hen; 2 ckl; 4, 5 pul, Lenawee Poultry Yards, Pasadena; 1, 2, 4 hen; 1, 3 ckl; 1, 2, 3 pul; 1 pen, C. F. Jones, Hollywood.

PARTRIDGE COCHINS—1, 2 ck; 1, 2 hen, Lenawee Poultry Yards, Pasadena.

SINGLE-COMB BLACK MINORCAS—1, 2, 4 ck; 1, 2, 3, 5 hen; 1, 2, 4, 5 ckl; 1, 2, 3, 4 pul; 1, 2 pen, H. E. Rose, Alhambra; 3 ck; 3 ckl, R. G. Page, Los Angeles; 4 hen, Mrs. Brizins, Los Angeles.

ROSE-COMB BLACK MINORCAS—1, 2 ck; 1, 2 hen, C. F. Bailey, Hollywood.

WHITE-FACED BLACK SPANISH—1 ck; 1, 2, 3 hen; 1, 2, 3, 4 ckl; 1, 2, 3, 4, 5 pul, R. A. Rowan, Pasadena.

ROSE-COMB ENGLISH RED CAPS—1 ckl; 1 pul; 1 pen, W. T. Blakeley, Pasadena.

CORNISH INDIANS—1, 3 ck; 1, 2, 3, 5 hen; 1, 2 ckl; 1, 2, 3, 4, 5 pul; 1 pen, F. H. Broadhead Company, Los Angeles; 4 ck; 3, 5 ckl, J. D. Mercer, Los Angeles; 4 hen; 2 ck, W. H. Smith, Pasadena; 5 ck; 2 pen, J. E. Seeley, Los Angeles; 4 ckl; 4 pen, Mrs. Otto F. Harmes, Los Angeles; 3 pen, Mamie E. DeCamp, Los Angeles.

BROWN LEGHORNS—1 ck; 1 ckl; 1 hen; 1, 2 pul, James Webster, Los Angeles.

WHITE LEGHORNS—1 ckl; 1 pul; 1 pen, W. W. Saxton, San Pedro.

SINGLE-COMB BUFF LEGHORNS—1 pul; 1 pen, W. H. Hunter, San Fernando.

ROSE COMB BUFF LEGHORNS—1 ckl; 1 pul, Dr. W. M. Holmes, Pasadena.

SILVER HAMBURG—1 ck; 1 hen; 1 ckl; 1, 2 pul, R. A. Rowan, Pasadena; 2 ck; 2, 3 hen; 2 ckl; 3 pul, E. W. Kahles, Los Angeles.

BLACK HAMBURG—1, 2 hen; 1, 2 ckl; 1, 2 pul, R. A. Rowan, Pasadena.

GOLDEN BEARDED POLISH—1 ck; 1 hen; 1 ckl; 1 pul, R. A. Rowan, Pasadena.

SILVER POLISH—1 ck; 1, 2 hen; 1, 2 pul; 1, 2 ckl, R. A. Rowan, Pasadena.

GOLDEN POLISH (non-bearded)—1 ck; 1, 2, 3 hen; 1, 2 ckl; 1, 2, 3 pul, R. A. Rowan, Pasadena.

HOUDANS—1 hen; 1 ck; 1 ckl; 1 pul, D. W. Evans, Whittier.

BLUE ANDALUSIANS—1, 2 hen; 1, 2 ck; 1, 2 ckl; 1, 2 pul; 1, 2 pen, Mrs. T. R. Griffith, Los Angeles.

PEA COMBED BUCKEYES—1 ckl; 1 pul; 1 pen, Mrs. F. Metcalf, Glendale.

LAKENVELDERS—1 ck; 1 hen; 1, 2 pul, Mrs. C. D. Hubbard, San Fernando.

BANTAMS.

BUFF COCHINS—1 ck; 1, 2, 3, 4 hen; 1, 2 ckl; 1, 2, 3, 4 pul; 1 pen, F. D. Carroll, Los Angeles; 2, 3 ck; 3, 4 ckl; 5 pul; 2, 3 pen, M. E. Dillingham, San Gabriel.

SILVER DUCK WING—2 ck; 1 pul, C. C. Thompson, Los Angeles; 1 ckl, Mrs. Smith, Los Angeles.

SPANGLED GAME—1 ck, R. D. Peck, Los Angeles.

RED PYLE GAME—1, 2 ck; 1, 2, 3, 4 ckl; 1, 2, 3, 4, 5 hen; 1, 2, 3, 4, 5 pul, R. A. Rowan, Pasadena; 3 ck, W. J. Bodger, San Gabriel.

BLACK BREASTED REDS—2 ck; 2 hen; 1 ckl; 1 pul, Lake Avenue Poultry Yards, Pasadena; 1 ck; 1, 3 hen, W. J. Bodger, San Gabriel; 1 pen, Harry E. Rose, San Gabriel.

BROWN REDS—1 ck; 1, 2 hen; 1, 2 pul, W. J. Bodger, San Gabriel.

WHITE CRESTED POLISH—1 ck; 2, 3, 4, 5 hen; 1, 2, 4, 5 ckl; 1, 3, 5 pul, R. A. Rowan, Pasadena; 3 ckl; 4 pul, O. L. Diamond, Los Angeles; 2 pul, J. B. Suydam, Los Angeles.

BLACK COCHIN—1, 2, 3, 4 ck; 1, 2 ckl; 1 hen; 1 pul, W. J. Bodger, San Gabriel.

GOLDEN SEBRIGHTS—1, 2, 3, 4, 5 ck; 1, 2, 4 hen; 1, 2, 3, 5 ckl; 3, 4 pul; 1, 2 pen, M. E. Dillingham, San Gabriel; 3, 5 hen; 2, 5 pul, G. F. Stevenson, Hollywood; 4 ckl; 1 pul, W. L. Sly, Hollywood.

SILVER SEBRIGHTS—1, 3, 5 ck; 2, 4, 5 hen; 2, 3, 4, 5 ckl; 2, 3, 5 pul, R. A. Rowan, Pasadena; 2 ck; 1 hen; 1 ckl; 1 pul, Frank H. Thomas, Los Angeles; 4 ck; 3 hen, Mrs. A. J. Little, Monrovia.

JAPANESE BLACK-TAILED BANTAMS—1 ck; 2 pul, J. B. Suydam, Los Angeles; 2 ckl; 1 pul, R. D. Peck, Los Angeles.

DUCKS.

BUFF ORPINGTONS—1 young drake; 1 old duck; 1 young duck, Dr. W. J. Barlow, Sierra Madre.

PEKIN—1, old drake; 1, old duck; 1, young drake; 1, young duck, Mrs. C. D. Hubbard, San Fernando.

ROUEN—1, old drake; 2, old duck, M. H. Watson, Los Angeles; 1, young drake; 1 young duck, Mrs. C. L. Hogue, San Gabriel.

TOULOUSE GEES—1, old gander; 1, old goose, Dr. W. J. Barlow, Sierra Madre.

TURKEYS.

MAMMOTH BRONZE—1, adult Tom; 1, 2, 3, yearling Tom; 1, 2, young Tom; 1, 2, 3, 4, 5 hen; 1, 2, 3 pul, Mrs. C. D. Hubbard, San Fernando; 4, yearling Tom, Dr. W. J. Barlow, Sierra Madre.

WHITE HOLLAND—1, adult Tom; 1, hen, J. G. Holborough, Los Angeles.

BOURBON RED—1, young Tom, Mrs. Frank E. Metcalf, Glendale.

GUINEAS—1 ck; 1 pul, Mrs. C. D. Hubbard, San Fernando; 1 pen, Charles G. Weaver, Garvanza.

TEN-PULLET PEN CONTEST.

1, Ross & Tate, Altadena, with Black Orpingtons; 2, Mrs. C. D. Hubbard, San Fernando, with White Wyandottes; 3, Mrs. T. R. Griffith, Los Angeles, with Blue Andalusians; 4, A. J. Little, Monrovia, with White Rocks; 5, A. W. and W. S. Sly, Hollywood, with White Rocks.

PIGEONS.

SWALLOWS—Black wing cock and hen, blue wing cock, blue barless cock, 1sts, O. L. Diamond, Yellow wing cock and hen, old, C. P. Stell, 1, 2. Yellow wing cock and hen, 1907, C. P. Stell, 1.


ENGLISH RUNTS—White cock, L. Schumaker, 1. Black cock and hen, F. G. McCoy, 1. Silver cock and hen, F. G. McCoy, 1, 2.

ENGLISH POUTERS—Yellow-pled cock and hen, F. G. McCoy, 1; Red-pled, E. G. Waltz, 1.

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The busy, happy little hen,
In open field or picket pen,
Goes swinging at her daily toll
To scratch a living from the soil.
She's through the orchard and up the hill,
For seeds and bugs her crop to fill;
And when her daily round is made,
A nice fresh egg she's always laid.

Continued on Page 591

50 Cent Eggs

You may feed grains alone until doomsday and you will never get many of them. You must supplement grains with some highly nitrogenous food, rich in protein, to keep the hen in good health, build up her system and furnish her with the material for making eggs.

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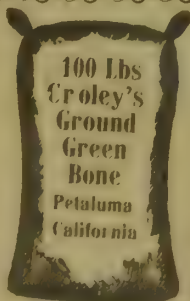
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Petaluma, Cal.

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ARTIFICIAL INCUBATION.

Continued from Page 565

greatly cut down the possibilities of a good hatch. They had turned the lamps a little too high once or twice, and the eggs were overheated a little, maybe 108 degrees or 115 degrees, but not long. I am positive the hen never turned her lamp too high. Then they forgot to turn the eggs a few times (possibly all the time, it was too much work;) and still the two percentages were almost equal.

Now, if this is a fair and impartial trial for an incubator, I don't know what fairness is, and as long as people are satisfied with this one-sided comparison, incubators will always be a failure.

If it had not been for the great work the incubator has accomplished hatching chicks, I am afraid poultry would be a novelty, where it now is a common sight, for the consumption everywhere is way in advance of the output.

What the incubator manufacturers need is assistance along the lines of practical information from people who are actually endeavoring to make a success with the hatches, and not from those who are forever finding fault and trying to keep others from mak-

strong female where he is weak.

For example: An undersized male if you must use him, mate to oversized females. If his comb is too large mate to females of small, fine combs. If his legs are not a strong yellow, mate to brilliant yellow-legged females. If his comb is other than right mate to females that offset said defect. If his legs are too short or too long, mate to females with opposite tendency, if possible. So on through the list of requirements, if one has the time and patience to do it.

The easy way is to mate the birds that approach the standard, whose pedigrees are known, and the results will be good. If one has but few birds of good pedigree, and of the true type, keep them separate and breed from them. Add to these, other good birds as circumstances permit.

One can, by careful selection and close attention to details, as outlined, vastly improve any flock with which he may choose to work. The better the birds are to start with the sooner will he attain satisfactory results. By buying good birds one takes advantage of years of careful breeding by the original breeder.

I know of nothing in the breeding line that will respond more quickly



Black Orpington Pen.

1st Prize Pen, Dairy Show, London, 1907. 1st, Prize Pen, Breeder's Show, Los Angeles, 1907. Owned by the Orpington Reservation, Ross & Tate, Altadena, Cal.

ing a success with the very same machine with which they had made a complete failure.—Frank J. Ironmonger, Hollywood.

SELECTING AND MATING A BREEDING PEN.

Continued from Page 568

For the benefit of those who may not have such a wide field to gather their birds from I will say that reading of the books leads me to think that the popular prejudice against inbreeding is perhaps too strong, though of value to breeders with birds to sell.

Here is what Mr. Robinson of Boston says in his great work, entitled "Poultry Craft." Page 154: "The whole matter as well put, in a nutshell, by a writer on cattle breeding when he advises to ignore the fact of relationship altogether, and breed from the best individuals obtainable. Then the question for the poultry breeder is whether he can get, or can afford to get, better birds than he has."

In mating up our breeding pen we must also consider the question of weight. In varieties where the Standard calls for a given weight it will be found advisable to breed from specimens of the weight required or a little over-weight.

In the smaller varieties, where no weight clause is found in the Standard, breed from the largest specimens that are true to type.

Balancing Defects.

In selecting and mating a breeding pen, offset a defect in a male by a

to intelligent work than poultry. On the other hand, I believe that the effects of neglect are as soon noticeable in fowls as in any other line of breeding.

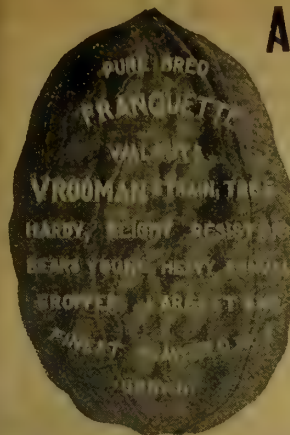
USING TROUGHS IN FEEDING POULTRY.

There are domineering hens in every flock of fowls and these keep the timid ones in fear and subjection to a greater or lesser extent.

When food is given in a trough where the hens can eat their fill, the domineering ones keep some of the others back and often eat twice as much as their share, while the less fortunate ones do not get enough to satisfy either their desires or their needs.

The best way out of this difficulty is not to use troughs at all, but to scatter the grains in some sort of a litter and compel every hen to scratch and hunt for her share, thus giving them all an equal chance. It is better to feed in such a way that the hens must take plenty of time to pick up their food, rather than feed in such a way that they can stuff their crops entirely full in just a few minutes, as they will then digest a larger proportion of the food consumed and with the good exercise they thus secure, will serve to keep them in a good, healthy condition and they will, therefore, be less liable to disease.

Troughs or their equivalent are necessary however, where soft food is fed; but to avoid monopoly by a few it is better to have several small troughs placed at different points than to have only one large trough and put all the feed in this.—Agricultural Epitomist.



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Deciduous Fruit Culture

RAISIN SEEDER.

Regarding the new raisin seeder the Fresno Republican says: Many difficulties have been encountered in perfecting this invention, the principal one being that the foundries which could have done some of the work, refused to touch it, presumably on account of influence brought to bear by other seeding concerns. But, by having a few parts made in one place, a few in another and even building some of the important features in his own work-room, Mr. Elliott has evolved this simple, yet effective mechanism entirely different in principle and design to the Pettit patent which has claimed up to this time the exclusive field of the raisin-seeding industry.

Briefly described the machine consists of a circular disc the face of which is covered with pins cast in circular grooves. The disc is composed of 16 segments, which are tongue-and-grooved into each other, being held in place by clamps in the middle and triced by a set screw at the outer rim. Great difficulty was found in getting pins that would stand the strain, but they are now successfully made from No. 17 gauge English Standard plow share cable steel metal by bending and flattening one end so that they will not pull out.

Working against this disc is a conical shaped rubber roller, and it is between this roller and the rapidly revolving disc that the raisins which have been processed are fed into the machine. This has the effect of separating the seed from the pulp, while a knife device situated directly beneath the hub, removes the seed from the disc, dropping them out beneath the machine. A quarter revolution of the disc from this point brings the fruit in contact with a set of metal fingers which lie in the circumferential grooves between the pins, takes it from the tables, where it is cartoned for the market.

As to its capacity for work this machine exceeds those built on the old patents, being capable of seeding from two to three tons per hour. The discs are very durable, calculated to last one or two seasons, making its operation more economical.

With regard to the finished product, not only is the seeding more perfectly accomplished, but the fruit is vastly superior in appearance to that seeded in the old way.

A castiron base is to replace the present wooden support, thereby giving the machine more solidity.

Three machines are now in daily operation and eastern capital is negotiating for the use of Mr. Elliott's patent, thus it begins to be apparent that the raisin-seeding industry has outgrown its days of monopoly.

As a general rule, we should use lime only to correct the acidity of the soil, and this is necessary only where there is difficulty in obtaining a good stand and luxuriant growth of a leguminous crop, such as red clover. As to the form of lime to use for this purpose, the farmer must be governed somewhat by the cost of the material. Fine ground lime stone will be both the best and the most economical form of lime to use wherever it can easily be obtained. If caustic lime be used, we should make special provision to maintain the humus in the soil.

GIVE MORE THAN THEY GET.

I am quite interested in reading most of your articles. I noticed a few weeks ago a writer asked how he could poison rabbits and in last week's paper another man is finding fault because the quail are eating a little of his crop. He is reported to have been breaking the law in trying to prevent the birds from getting a living.

Now, I think that with all the insect pests there are in the country that the birds more than pay for all the grain or fruit they destroy or eat, by the amount of insects they destroy all the year round. Now if these people who are so troubled with rabbits, would start a hunting camp and invite visitors and tourists to come and hunt, they would get a good thing for their trouble of entertaining the sportsmen at a dollar or two a day and have game to eat, as well as thin out the rabbits. They are better eating at this time of year than chicken ever was.

Again, I see some orange growers are stingy enough to begrudge a tourist an orange to eat as they pass along the road. You want to remember that the Eastern visitors leave a large amount of money here in this part of the country every year and the fruit growers ought not to be too hard on the visitors and want to get all they have.—H. Harvey, Pomona.

MECHANICAL CONDITION OF SOILS.

In a German publication discussing the observations of productivity of soils, it is shown that a small amount of silica and calcium carbonate in the soils did not prevent the plant roots from obtaining the necessary amounts of these materials. The so-called silica-loving plants grew vigorously on weathered dolomite rich in lime, provided the porosity of the material was similar to that of the quartz soils. The so-called lime-loving plants grew badly on a calcareous soil which had been rendered very porous by the addition of quartz. They grew well on a siliceous soil which had been rendered compact by the addition of loam and a little calcareous clay.

It seems clear, therefore, that it is the physical and mechanical properties and not the chemical properties which influence the growth and distribution of plants. The difference in growth on sandy soils and on calcareous and clay soils depends solely upon variations in the mechanical condition of the products resulting from the weathering of various soil-forming rocks.

WOOLY APHIS.

At a recent meeting of the San Jose grange in discussing wooly aphis, Horticulturist Morris said that young apple trees could often be saved by submitting the roots to water that had been heated to a temperature of from 130 degrees to 140 degrees. Older trees should be sprayed with a resinous compound, one that would penetrate the wooly covering. Force was necessary in the application, and even pure water would be found beneficial if it were applied forcefully.

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I am very much pleased with the Cultivator. It is an accessory in the development of our great State.—J. A. Cover, Modesto.

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Eight varieties, thoroughbred plants.

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Mammoth Blacks, Giant Himalayas, Early Crandall.

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POULTRY IN CALIFORNIA.

One of the really big industries of California is that of poultry raising. The climatic conditions are such that with ordinary care, poultry may be made to return handsome profits. There is never a time when eggs are not in demand at good prices, and poultry for the table is almost a luxury.

The report of the Secretary of Agriculture shows the poultry industry for 1907 to be \$600,000,000 in value throughout the country at large, which is in excess of the wheat crop, also the cotton crop.

Properly cared for chickens, turkeys, ducks and pigeons, go far in making any ranch profitable. In this State we receive, at least, 25 per cent. more for eggs, and 15 per cent. more for poultry products than is received in the markets of Chicago and New York. We ought to raise our full complement of poultry without having it shipped in from the eastern States. The time will come when this will be the case—and the day is not far off.

Even on city lots, owners may raise enough poultry to supply the family with meat and eggs, but this will not be done until more care is taken with the birds. The trouble with the city owner of poultry is in the neglect shown the birds. They require attention; regularity in feeding, watering,

and keeping quarters clean and free from vermin.

We know one woman who has paid for her home, on an acre of ground, in four years. She has simply taken care of her birds, and satisfactory financial results naturally followed.

To succeed in the poultry industry one must read good papers devoted to the care of chickens and follow the advice given on the subject.

Such a paper is the Cultivator.

THE PRESIDENT'S MESSAGE.

President Roosevelt's annual message to Congress, and the country, is in no sense the sensational document his enemies prophesied it would be. It dealt in earnest terms with those subjects which he has heretofore discussed, not receding in the least from the position taken for the necessity of honesty in business methods, square dealing by corporations, banks and allied business interests.

If the trusts and combines expected an abatement of his zeal in the matter of their observance of the laws of the land, they were disappointed. He is as firm in his demand that they shall obey the law as he was when he authorized the Attorney-General to prosecute all offenders against the statutes of the nation.

Eminently wise is his suggestion that the country has reached a point in its development when the tariff may be reduced on certain articles which have become a burden to the producers of the country.

To admit wood pulp free of duty, to take the tariff from lumber would be a blessing to publishers, to manufacturers and home builders. We have come to a parting of the ways on the tariff, as it affects the people, and Congress must note the fact or its political complexion will be changed. We do not mean that the country wants free trade, as a fundamental proposition, but it does demand a modification of duty along lines which most clearly affect the industrial conditions of the present day.

"We need more battleships with their auxiliaries," says the President, "if we are to maintain our place among the great naval powers of the world." So we do.

This recommendation is wise in view of the attitude of Japan, with whom it is feared we must contend for supremacy on the Pacific Ocean at no distant day. Whether such an unfortunate situation shall ever materialize, or not, the old saying: "In time of peace prepare for war," is not a bad one to remember when we are confronted with ambitious, pugnacious competitors who are zealous in their endeavors to control the maritime interests of the world.

Equally sound are his suggestions in relation to the business conditions of the country. We have abundant opportunity for good business conditions. There is no necessity for industrial stringency. We have money enough to transact the business of the nation, but we have "indigestion," that is all, and when this spasm passes off we shall resume our wonted course and renew our unprecedented prosperity.

Taken as a whole, the message reflects the sober judgment of a thinking American, and if the recommendations it contains shall be acted on, in the spirit in which they are given, we shall speedily be given a return of confidence, and we will go on our way happy and contented.

ABOUT BANK DEPOSITS.

The currency stringency of the times has had one peculiar effect, if we may accept the statements of bankers throughout the country; it has increased bank deposits and caused people who heretofore have not been depositors to open accounts in order to avail themselves of the convenience of paying their bills by means of checks. This applies to farmers as well as to city people, because the currency shortage affects the rural districts just as much as it does the big financial centers.

In this connection the Journal of Agriculture points out the fact that:

"Checks drawn by reliable business firms are equally as valuable as cash, but they should not be kept for any great length of time. It is much safer to deposit them in some bank that is known to be solid and where the depositor will be given credit for having deposited an equivalent amount of cash. The mistake of holding checks for an indefinite period can easily be seen, Granting that

Shop Talk

It has been the custom of the CULTIVATOR to issue special editions during each year, devoted to stock, poultry, deciduous fruits, citrus fruits, irrigation and gardening, of which this issue and our recent stock special are samples. Each is of particular value to those interested in the branch treated.

This issue represents a great amount of special work along the line of raising and care of poultry, and is worth to every man, many times the price of a year's subscription. There is a vast stock of information and good reading contained which will circulate far and wide among more people than any such paper in the West ever did before.

Early in January will come the deciduous number, which will be of particular interest to fruit growers. The buying and planting time will be coming soon after that and there will be a great number of things of interest along this line.

The other specials will follow along in their proper season and you cannot afford to miss them, nor any of the regular issues between.

On another page is an order blank which you had better fill out today for the year 1908, or if an old subscriber send in your renewal.

The CULTIVATOR is forging ahead and you had better go along with it.

When renewing your subscription to the CULTIVATOR do not be disappointed if you do not get a receipt by mail for your money. Our method of letting you know your account is credited is by changing the date on the address label on the cover of the paper. For instance, if \$1.00 is paid and your label formerly read 10-07, it will within two weeks change to 10-08. If it does not change in that time we want you to write to us.

the individual or firm that drew the check had ample funds in the bank to pay it at the time the check was issued, it does not necessarily follow that they will have that much money on deposit a year or six months hence. Most States have laws requiring that checks must be cashed within a certain time after they are drawn, otherwise they become valueless. This is perfectly proper, because nobody knows what will happen to a firm's credit within that length of time. The money is there for the person to whom the check is made payable, at the time it is drawn, but if he waits several months before cashing or depositing it, it is not unreasonable to suppose that the firm may exhaust or withdraw its account within that time. Then, of course, when the check is presented, it would be refused "for lack of funds."

"That is where bank depositors have an advantage over others in these times of stringent currency. When they receive checks in payment, they can deposit them to their credit and draw their own checks against such an account, thus making the checks a substitute for real money. 'Another reason why farmers and other persons should have checking accounts at banks,' says the Journal of Agriculture, 'is that a check is a positive receipt in itself and it can be conveniently mailed, obviating the necessity and expense of buying drafts and money orders. If it is dangerous to keep checks in one's possession, it is doubly so to retain cash in any considerable amount, thus inviting the invasion of one's home by robbers.'"

In another way would we suggest to farmers the advantage of bank deposits; prompt payment of all bills owing, for if any bank should prove to be unsound and an account is paid by check, accepted by a creditor, no further trouble can be made the giver of the check. Pay debts promptly and do not hoard money in these times.

PINEAPPLE CULTURE.

Many old-time readers of the Cultivator will recall the name of Goodwin & Thomas which used to stand at the head of the editorial column. Mr. Thomas sold his interest something over ten years ago and went to Wahiawa, in the Hawaiian Islands (about 20 miles from Honolulu,) where he became interested in pineapple culture. He now has over 400 acres planted in pineapples. A few years since, while in Los Angeles, Mr. Thomas gave Cultivator readers an article on pineapple culture. Since then this industry has made great strides on the islands, and Mr. Thomas will write us another article which will be illustrated with scenes on the plantation.

Mr. Thomas's health is far better than when connected with the Cultivator, and his friends hardly recognize him as they meet him, because of his more rugged appearance.

Agricultural Notes of the Pacific Coast

Northern California

Maywood Colony is installing a number of new pumping plants.

There are in the neighborhood of Anderson nearly 700 acres in prunes.

Olive pickling is one of principal occupations at Yuba City at this time.

Gridley Herald reports very profitable dairying interest in that vicinity.

Systematic band of horse thieves are working among the farmers near Red Bluff.

One farmer near Gridley is contemplating planting 3000 acres of corn next season.

Healdsburg shipped 84 cars of tomatoes to the cannery at Santa Rosa during the past season.

Forest rangers of the Stanislaus Forest Reserve held a meeting at Nevada City last week.

A poultry woman of Colusa received from twenty hens during the past twelve months 2900 eggs.

Many grain growers at Red Bluff are forsaking wheat growing and giving more land to the production of stock.

Farmers about Petaluma are taking great interest in the coming poultry show, which promises to be a great success.

The Colusa grain growers have been showing some exceedingly fine specimens of barley grown near that place this season.

The lateness of the rainy season is favorable to the protection work being done on the levees along the Sacramento River.

Ukiah is shipping out a fine bunch of beef cattle at this time. One shipment last week of forty head averaged 1165 pounds each.

One grape grower at Lodi, from a vineyard of twenty-five acres, took 17,000 crates of grapes for which he received 95c per crate.

The recent Farmers' Institute at Rumsey gave special attention to remedies for peach blight, and all told was a most helpful institute.

Farmers' Institute was held at Two Rock Monday and Tuesday of last week. Profs. Jaffa and Woodworth of the university made addresses.

The butter-wrapping machine at the recent Creamery Convention held at Davisville attracted much attention from various creamery operators.

The growing of English walnuts is proving profitable in many sections of the Sacramento Valley. Franquette is proving to be one of the favorites.

The fruit and vegetable men near San Francisco are rejoiced over the announcement that a free market will soon be given them in San Francisco.

Several Healdsburg growers disposed of their hops to one buyer last week, the highest price being 6¼ cents, ranging from that down to 5 cents.

Much alfalfa ground is being plowed up at Yuba City to make way for vineyard planting. One firm there will plant nearly 500,000 cuttings this season.

The Mendocino Vineyard Association has filed its articles of incorporation. It will engage in planting vineyards in Mendocino county, especially near Ukiah.

Central California

Hanford market was supplied with Thanksgiving raspberries, which bore the home-made brand.

Fertilizer Expert Reed of the Department of Agriculture is making soil investigations at Watsonville.

Some oranges were hauled across country from Lindsay to Visalia in order to get Santa Fe shipment.

Dinuba table-grape shippers found the season most profitable, some of the growers securing over \$2000 per car.

A company with a million-dollar capital has been formed for the construction of a cold storage at Watsonville.

More resistant grapevines will be planted this season than heretofore.

Ceres holds a farmers' institute this week.

The second annual fair of the Tulare County Citrus Fair Association closed last week after a most successful season.

The Sentinel says the recent exhibition of poultry at Kings County Fair shows the improvement of poultry of that section.

The annual show of the Fresno Poultry Association is being held this week. The entries will be larger than they were last year.

Investigations are being made in a cement deposit at Watsonville, which it is hoped has the capacity for producing a fine quality of cement.

The Republican says the demand for raisins is improving, and it is anticipated that December and January shipments will be encouraging.

Farmers at Watsonville have been prevented from marketing their potato crop this year on the account of shortage of labor at gathering time.

The Kern county corn growers have found this a most successful season, as the gradually approaching cool weather favored the ripening of the crops.

Raisin packers in Fresno report the inquiry for this season's pack is beginning to look up and promise is now better than at any time since the recent flurry.

The Lewis Asparagus & Fruit Company has filed articles of incorporation. This company will acquire land near Corcoran and grow asparagus, vegetables and fruit.

State Horticultural Commissioner Jeffrey, in examining the white fly conditions in Oroville, expresses a hope that the pest will be entirely eradicated, and says that the whole force of the State office will be used to that end.

A meeting of hop growers was held in Sacramento last week to perfect an organization modeled after the plan of the cotton growers of the Southern States. It is to be hoped that the market conditions may be controlled better than they were this year.

A. H. Hulbert, living in Granite Creek Cañon, three and one-half miles northeast of Santa Cruz, has eight rows of strawberries ninety feet long from which he has sold \$260.80 worth of fine strawberries the past season. The last picking was made November 20.

Southern California

Profits from peanut culture in Orange county have been satisfactory.

Orange ships 200 sacks of green peas daily to the Los Angeles market.

The city of San Bernardino is preparing to set out quite a large acreage of eucalyptus.

A thousand acres of Malaga grapevines will be planted in Coachella Valley this fall.

Hemet navels are very fine this year, the first holiday shipments going forward on Nov. 20.

San Jacinto boasts a single vine which produced this season nearly one ton of citron melon.

Imperial Valley is fattening hogs on "second-crop" products raised after cantaloupes were removed.

Melon growers from Rocky Ford, Colo., inspected the melon prospects in Imperial Valley last week.

The Redlands Review reports that its holiday output of oranges is running 88 per cent. extra fancy.

Up to the end of November Riverside shipped 68 cars of holiday oranges, and 45 cars of lemons.

Many Southern California turkey raisers were disappointed in the Thanksgiving market this year.

Robert Grauer of Oxnard has just returned from a tour in Germany inspecting denatured alcohol plants.

The Submarine says that the orange trees have done exceptionally well in that section during the past season.

The El Centro creamery started recently with a production of 300 pounds per day. Its capacity is 1000 pounds.

This is California's banner year for spuds. Many farmers have cleared \$250 per acre as a result of their labors.

Strawberry in the El Modena district are said to be exceptionally fine this year, many running eighteen berries to the box.

Cannery men are looking over the Redlands, San Jacinto, and Hemet sections with the idea of establishing a fruit cannery.

The warm weather of the past few weeks has succeeded in coloring the oranges, and they are being shipped forward rapidly.

Several big cattle ranches in the southern part of Orange county have dipped their cattle for the tick during the past few weeks.

Redlands has an ordinance compelling that all fowls, especially turkeys, offered for sale in its market must be drawn within a reasonable time after being killed.

A carload of fat hogs shipped from Pullman, Wash., the last week in November, brought the farmers only five cents per pound, a drop of two cents over the previous market.

R. P. Cundiff, the Horticultural Commissioner of Riverside county, has been appointed by State Commissioner Jeffrey a special deputy commissioner over Riverside, San Diego and Orange counties.

The directors of the Redlands Golden Orange Association for next year are: F. P. Morrison, president; Chas. R. Paine, vice-president; H. H. Gartin, secretary and general manager; E. G. Judson, A. E. Sterling, George S. Jay, J. W. England.

The Coast

Garfield, Washington, needs more cars to ship its apples.

Fifty thousand bales of hops were shipped from Oregon this year.

Elberton, Washington, shipped eleven hundred tons of prunes this season.

The fruit and truck growers of Bonham, Texas, have organized for mutual profit.

Two-year-old apple trees in North Yakima, Washington, bore heavily this year.

There are more than one thousand acres of English walnuts in Yamhill county, Oregon.

Texas builders complain of the high prices of lumber, which makes building almost prohibitive.

The Deseret Farmer is appealing to Utah farmers to follow the California plan of making hay of barley.

The Portland Oregonian claims the Willamette valley to be the fruit growing section of the world.

Grain growers at Lewistown, Idaho, are shipping but little grain these days owing to currency shortage.

The Farm and Ranch maintains that Texas cotton sells at a premium over that of any other Southern section.

Fruit men at Wenatchee, Washington, held a meeting recently to discuss fruit marketing problems for next year.

The income derived by the ranchers of Coeur d'Alene, Idaho, aggregates \$50,000 from poultry and eggs this year.

A new sugar factory is to be built at Chinook, Montana. Five thousand acres of beets are pledged for next year.

Packing houses in Salem, Oregon, are still packing on prunes, for which the shippers are demanding full price.

A large number of turkeys were condemned in the Spokane market shipped there for the Thanksgiving trade.

Warehouses at Washtucna, Washington, have been closed to receiving any more wheat, because they are filled to their limit.

North Yakima, Wash., is irrigating with water derived from artesian wells, which is giving a good flow in that neighborhood.

The Territorial fair held in Phoenix, Arizona, last week drew cattle men from all over the State to a cattle breeders' convention.

Farmers of Eastern Washington and Northern Idaho are jubilant over the extension of the C. M. & St. P. Railway through that section.

A storage warehouse three miles long at Vollmer, Idaho, which is the largest warehouse in that State, is filled to the rafters with wheat.

It is claimed that a walnut grower in Yamhill county, Oregon, is making a fortune from a 40-acre planting, which he made a few years since.

The Western Stock show will be held at Denver January 20-25. It is claimed over ten thousand of the most prominent stock men of that section will attend.



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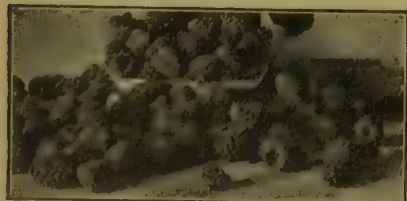
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The Vegetable Garden

PRUNING AND CARE OF LOGAN AND DEWBERRIES.

PRUNE Logan and dewberries any time between now and February.

Cut the canes to a length that will reach to the next plant in the row. Do not leave more than eight canes to the plant and cut all others out entirely. I prefer to leave half of the canes on either side of the plant along the row, rather than lay them all one way. A few pegs or short stakes will help keep the canes in place along the row. I think it a great waste of labor to trellis either Logan or dewberries. In the spring the fruit stalks will all assume an upward growth—seeking the light—and if the weeds are kept out and the new growth that comes up at the crown is properly managed, the fruit can be as easily gathered as upon a trellis and it will be fully as abundant. One way to manage the new growth is to put in a good redwood stake, 11-2x11-2 inches thick and about 5 feet long, and, when the growth starts up vigorously, cut all but eight out of each hill, and when these get so tall that they fall over and cover the fruit, tie them to the stake. The object is to keep them from interfering with the picking, and also to keep them separate from the bearing canes. This separation makes it easy to cut out the bearing canes and clean up the ground as soon as the crop has been harvested.

Another method is to keep the new growth cut back just enough to allow the fruit to be gathered easily. Then after the crop is all gathered, cut out the bearing canes, clean up the ground and allow the new canes to grow at will; first having thinned out the weak or surplus canes.

I have practiced another method with good results, but everything must be done at the right time and in the best manner if it is to be successful. It is to prune back both the old and new wood as above noted, and, not later than July 12th, take a large planter's hoe that has been filed very sharp and cut off all growth close to the ground, haul it off the ground and burn it. You want to be careful to cut with an upward stroke so as not to destroy the buds on the crown of the plant. In other words, don't cut too deep or close. Clean up the ground by a thorough cultivation, and in a few days, when you see the new growth starting freely, give the patch a good irrigation. Thin out each crown to eight canes, and if you give good care by water and cultivation, by the middle of December you will have canes that will bear a fine crop the following season. If it is preferred to use the trellis system, a trellis 18 or 20 inches high, made by setting good posts along the row to that height, and nailing a strip 1x2 inches and 18 inches long flat across the top of the post, and two wires stretched along on top the entire length, seems to me to be the best I have seen. These posts should be about 20 feet apart and the end posts well braced. The wires can be fastened to each cross bar by a staple driven into the end of each. The canes are then brought up to the wire and tied and then bent so that it can be tied several times along the wire to hold it in place.

Dewberries should receive exactly the same treatment. A very successful grower of dewberries in Texas

plants in rows four feet apart and the plants less than two feet in the row. Beginning in the spring he goes over the plants often throughout the season and cuts back every cane to about 12 inches. This makes a great stinky cluster of fruiting canes to each plant, which this grower claims will produce three times the fruit to be had from any other method.

I have not tested this method, but, while it might give a great number of berries, I question if they would have the size of fruit grown with fewer canes to the plant.—Q. A. Lobingier, San Gabriel.

HOW PLANTS PERSPIRE.

"Yes, it is hot," said the farmer, lighting an Egyptian cigarette. He was a farmer of the new type, a scientific farmer, graduate with high honors from a college of agriculture. "Yes, it is hot. My grains and vegetables must be perspiring tons today."

"But grains and vegetables don't perspire."

The farmer's gold front teeth flashed, as he smiled, like a little sun.

"Don't they?" he said. "They do, though. Look at that sunflower there. It is only four feet high, yet on a hot day it perspires two pounds of perspiration."

He waved his silver-headed stick over his fertile fields.

"All that stuff perspires," he said; "beans, peas and corn perspire, during the five warm months, 200 times their own weight. Our perspiration is nothing to that, is it? Imagine me, for instance, a man of 160 pounds, perspiring 32,000 pounds every summer."

"The perspiration of the cabbage is the most profuse of all. Do you know that an acre of cabbage gives off daily in the summer over ten tons of perspiration?—Ex.

Have you ever tried that quick-action vegetable that Englishmen are so fond of—mustard? You can cook the leaves like spinach in 20 days after sowing the seed.

Do you like a salad plant with some "tang" to it? Then sow endive. Tie up the heads so they will

Suckers in the fruit trees do what they will do anywhere else; they will take the life out of the tree and rob it of its fruit.

WHY HE MARRIED HER.

"Her to his heart the fellow takes.

"I've often wondered why."

"Why, don't you know? The woman makes Most luscious apple pie."

LIKED THE STYLE.

She wore a waist of peek-a-boo,

The thinnest she could find.

When the mosquito looked at her

He murmured, "Oh, how kind."

BETTER THAN OTHERS.

I like the Cultivator better than any other agricultural paper on the coast.—R. Jackson, Yucaipa valley, P. O., Redlands.

MANY WAYS.

I am sure I have been helped and instructed in many ways through reading the California Cultivator.—Miss McCord, Clovis.

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Closing Out Sale. 2 yr. old field-grown plants. Send for list.

Cedro Nursery, Gilroy, Cal.

Apple growers near Athena, Or., are marketing their biggest apple crop this year.

The Ornamental Garden

THE SWEET PEA.

Sweet, and everlasting peas are annual and perennial species respectively of Lathyrus, a genus of leguminous plants embracing many species of decorative value as garden plants. Most of the annual species are natives of South Europe and North Africa, the species from which the present garden forms of sweet peas have been raised being Lathyrus odoratus, a native of Sicily. This pea has been in cultivation in gardens for over two hundred years, but its popularity as a valuable garden plant is of comparatively recent date. During the last twenty years a number of horticulturists in England and America have made a special study of sweet peas, and by cross-fertilization and selection have produced varieties of great excellence, the size and form of the blooms and the varied coloring and freedom of flowering in the new varieties arousing a deal of public interest in the plants. The culture of sweet peas has become a feature in most gardens, large and small, the hardiness of the plants, wealth of bloom under fair conditions, ease of culture, and the short period elapsing between the sowing of the seeds and the blooming season being the principal factors in their popularity. The flowers are produced in spring in Victoria, and embrace almost all shades of color; the plants thrive under harsh conditions, but like most florists' flowers, respond well to a little attention in the selection of site, soil and manure and cultivation.

The everlasting peas—so styled on account of their perennial habit of growth—have been found native in various parts of Europe, Asia, and America. As the plants are of herbaceous growth and rest in winter, the flowers of this species are produced in the summer months. Some improved forms of this pea have also been raised; the flowers are rose, white and pink in color and are much larger than sweet peas. The plants are very hardy and are valuable for supplying cut blooms during the hot summer months. There are several species of Lathyrus, in addition to latifolius, that are worthy of a place in our gardens; one of the finest lately distributed in Australia is Lathyrus pubescens, a native of Chili and Ecuador. This is an evergreen perennial climber of very rapid growth, that produces masses of beautiful blooms of a lavender shade of blue, the flowers resembling a well-grown lupin rather than a pea. Plants of this growing in Mr. J. V. Smith's garden, Bundoora, near Melbourne, have covered a large break-wind trellis during their second season of growth; one plant has completely overgrown a space of eight feet in height and fifteen in width and is flowering splendidly. Most of the flowers of this kind are produced in spring, but there are occasional blooms at most seasons of the year. This pea is one of the best of recent plant introductions.

Cultivation.

The most suitable soil for the production of plants of the annual sweet pea that will bloom freely for a long period is a well enriched loam. The plants will grow under severe conditions, but as soon as the plant food

and moisture are exhausted will cease to produce growth and to bloom freely. Soil for the reception of sweet peas should be prepared during summer, a liberal dressing of stable manure deeply worked into the soil being necessary. A light dressing of superphosphate of lime worked into the surface soil, or sown with the seeds, will assist materially in prompting a vigorous growth.

Sweet peas are true annuals, producing flower and seed and dying in one season, and are propagated exclusively from seeds. The seeds will produce plants bearing flowers identical with the parent variety unless artificially cross-fertilized, or by the agency of insects, the latter an unlikely contingency as the organs of reproduction are enclosed in the calyx or keel of the flower. Varieties that have been grown in Victoria for years have never varied from the original type, although grown among other varieties. Seeds should be sown during the autumn to produce strong plants before the winter season arrives, when they will resist any weather conditions that occur in the greater portion of the State. In very cold districts the sowing may be deferred until spring if it is found that the plants will not endure the winter weather. The most common cause of failure to produce satisfactory plants is the sowing of seeds too thickly. Sweet peas may be sown in clumps or in rows at a depth of one inch and six inches of space should be allowed between plants.

The young plants need training on small sticks, when they attain a height of six inches, afterwards being trained on taller stakes, trellis or wire supports. To increase the size and number of flowers the plants should receive a liberal supply of water during dry, spring weather, and will benefit largely by an occasional watering with liquid manure. The flowers should be cut regularly or the season of blooming will be considerably reduced, the production of seed being the signal of cessation of blooming. Plants will flower during the greater part of summer in moist and cool districts and situations.

In addition to the ordinary sweet peas that attain an average height of about six feet, there are two other types known as "Cupid" and "Bush" sweet peas. These are dwarf growing types; the first named grows to a height of only six inches, and the latter eighteen inches. They are useful for edges of borders, but on account of short flower stems are not as popular as the tall varieties.

—Journal of Agriculture of Victoria.

An old dorky who said he was glad he had two boils instead of one gave as his reason: "You see de first one hurts so it makes me forget de secon' and de secon' hurts so I forgets de first." That is why, no doubt, men who use laundry soap for shaving, shave when they have a toothache. But there is no reason why a man should pray for sustaining grace when he starts to shave. He could answer his own prayers and get better help if he would use the right kind of soap—and we mean by the "right" kind (taking his own grandfather's word for it.) Williams' Shaving Soap.

It softens the beard and cools and soothes the irritated skin. "By sending a 2c stamp to the manufacturers, The J. B. Williams Co., Glastonbury, Conn., to pay postage, you can obtain a free sample."

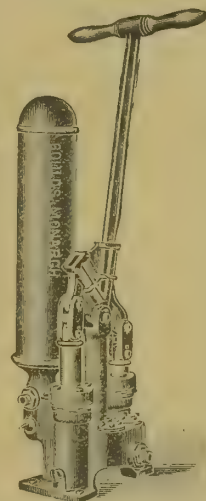


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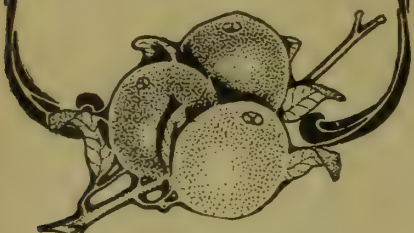
The Sonoma county Grange is out with a resolution in favor of Parcels Post.



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Sour and Sweet Orange Seed Bed Plants

The Finest Lot in California

My sour orange plants are grown from seed off the wild orange trees of Florida. Trees grown on this stock are very desirable for planting in heavy soils or lands that are subject to excessive moisture or drouth, also lands underlaid with clay or hardpan or poorly drained. Its most valuable feature is its resistance to gum disease.

My sweet orange plants are grown from seed off very large, old Tahiti seedling trees, thus making the very best foundation to grow an orange orchard on. Don't fail to see my stock before you buy. or address

William Wood, Box 118, Whittier, Cal.

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Money invested in High Grade Bonds and carefully selected First Mortgages is money kept in circulation.

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Our constant endeavor is to make those who have dealt with us once feel like coming again.

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Main Corridor, H. W. Hellman Bldg.
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Telephones: A6897, Main 592.
When writing advertisers mention Cultivator

Poultry in the Citrus Orchard

BY MRS. C. D. HUBBARD, SAN FERNANDO.
Written especially for the Cultivator

For the past eight years Mrs. Hubbard has been engaged in raising poultry amongst the citrus trees of the old mission town, and is well fitted by her experiences to give information along this line. Mrs. Hubbard breeds White Wyandotte exclusively and on a very large scale.—Ed.

POULTRY is very beneficial to citrus orchards, as well as profitable. The two branches of work can be carried on very successfully together.

Poultry manure is one of the best fertilizers we have for our citrus orchards. All orchards should value it very highly, knowing its analysis, which is as follows:

Nitrogen, 32½ pounds per ton; Potash, 17½ pounds per ton; Phosphoric acid, 30 pounds per ton; Lime, 40 pounds per ton.

It is worth \$20 per ton at least to any orchardist.

Shade and Protection.

The trees provide shade for the chickens in summer and shelters them from the wind in the winter. The chickens in turn will gather the insects under the trees in the dead leaves, and in scratching under the trees keeps the ground loosened, whereas, if you leave no birds in the orchard to keep the ground loose under the trees, it has to be done by hand or the ground becomes very hard and dry and the trees do not do nearly as well.

If the birds are provided with

green feed, they never try to eat the leaves off the citrus or deciduous fruit trees.

Houses.

Movable houses would be best to use. They can be made four feet wide and eight feet long. The frame should be made substantial, using 3x3 for frame and 1x12-board around bottom. Burlap may be used for the north, east and west side; wire netting for the front, with a burlap curtain to draw down in winter; the roof may be of shake, corrugated iron or roofing paper. Pieces of 1x2 should be nailed on each side of the ends of coops to use as handles in carrying them. This size coop with three perches will hold 24 birds.

Feeding.

If the hopper-feeding method is used, the birds in an orchard are but very little care, providing the water is piped along the edge of orchard.

The beauty of having these two industries together, is that you can raise two crops on the same land at the same time and that if the fruit crop fails you are very sure you can depend upon the chickens.

Tulare County Citrus Fair

THE second annual Tulare County Citrus Fair was held in Lindsay last week and closed on Saturday night with the claim of one of the greatest successes in its line ever held. The experience of last year's fair which was held at Porterville aided in putting this one on a higher plane at the start. Then, Lindsay has some hustlers who started out to do things. The verdict is that they did several of them.

The fair is not exclusively citrus. Citrus fruits were the central attraction, but in addition general display of manufactures, arts, products and even livestock.

In the machinery tent many exhibits of San Francisco and Los Angeles houses were made. Engines and all kinds of irrigation machinery made a very strong exhibit. The main citrus and most other products exhibits were made in a large packing-house on the S. P. Railway, outside of which was erected the large tent for machinery and other exhibits. Regarding the locality displays a writer on the ground says:

"At the extreme north end of the auditorium is the platform for music and speakers. The scenery is an enormous sun of oranges rising from the mountains. Beneath is the Lindsay exhibit. It consists of a large fruit refrigerator car, with wood frame and sides and doors of tangerine oranges. The lettering is of limes. The track is wood, ballasted with talc from the mountains east of Lindsay.

Lemon Cove is represented by a gigantic sunburst, with electric bulbs for the sun and green and white bunting for the rays. On the platform beneath are displayed perfect navel oranges and lemons.

"Porterville has erected a large globe in imitation of the earth. The continents and islands are marked off with tangerine oranges and green lemons. Porterville was the first town in Tulare county to raise oranges, and its

display of this fruit is one of the largest at the fair.

"Exeter presents her display on a large platform, with a pyramid of oranges and grape fruit in the center. Piled all around it are specimens of dried fruits, walnuts, grapes and, of course, more oranges.

"Dinuba, Orosi and Sultana have combined to present a prodigious and unique display from northern Tulare county. Trays and boxes of dried and canned fruits of all kinds show the natural resources of these communities. They are just beginning to produce oranges, and they display samples with no little pride.

"The little orange-growing town of Plano has strung specimens of her fruit in all directions around a small booth. Plano is south of Porterville and is in the direct line of the fast growth of the citrus belt to the southward.

"There are tempting displays of apples from Milo and Hot Springs. Apples are grown in large and paying quantities up in the foothills of Tulare county. Success, a new district east of Porterville, has a small exhibit of choice oranges.

"There are two large tables in the center of the auditorium containing the general display from the whole county. On one of these are the jars of different fruits, which took many first prizes at the recent State Fair at Sacramento. The second is covered with freaks of all kinds. Among these are a large Red Emperor grapevine two years old and hanging heavy with luscious grapes, a pumpkin weighing 180 pounds, enormous oranges, grape fruit and many other wonderful specimens.

"The officers of the fair have provided athletic contests for each afternoon, and literary and musical programmes for each evening. Cash prizes and handsome premiums will be awarded for the best displays of everything shown at the fair. Special trains are being run from all neighboring towns and reduced rates are being allowed.

"The officers of the fair are: G. V. Reed, president; G. S. Berry, vice-president; H. W. Dockham, secretary, and J. H. Turner, assistant secretary. They are being ably seconded by special committees made up of residents of Lindsay."

Green Manuring

Now is the time to plant crops for green manuring. The best crops for this purpose are Vetch, Canadian Field Peas and Fenugreek. For information and prices of the seed write to

Johnson & Musser Seed Company

[113 No. Main St., Los Angeles]

For Gardening, plant Onions, Lettuce, Spinach, Turnips, Beets, Radish, Carrots, Cauliflower and Cabbage.

When writing advertisers, mention Cultivator.

Ducks Thrive in California

Written especially for the California Cultivator
BY A. G. GOODACRE OF COMPTON.

Perhaps no man in Southern California has had more experience with ducks, their mating, breeding and feeding than Mr. Goodacre. We feel the Cultivator readers are fortunate that we have secured this information from one so well informed on this line.—Ed.

THE characteristics and breeding of the various breeds of ducks may make an interesting discussion for a short paper.

Pekin.

This variety, so popular the world over as a market duck, bred by the tens of thousands on large duck farms in the Eastern States, especially along the Atlantic seaboard of Long Island, is a native of China, hence the name. When carefully bred and fed, it can be placed on the market as green ducks (never been in the water) at seven weeks old. But they generally are marketed between eight and ten weeks of age, just before going into adult moult. Drakes weighing five and one-half to six and one-half pounds each, and the ducks often one-half to one pound lighter in weight, selling alive for 10 cents to 16 cents and 18 cents per pound, according to the season of the year. Late winter and early spring bring top prices. Summer prices are too low, as a rule, to produce birds at a profit; prices of dressed ducks (just clean picked) undrawn run from 18 cents to 35 cents, the top prices for a select family or hotel trade. The cost of producing a pound of weight ranges from eight to 12 cents, according to feed stuffs, locality, etc., and if from poor breeding stock, it will cost more on account of mortality and slow growth and

small size. There is all the difference under the sun between good Pekin and just puddle ducks, so-called Pekin, because they happen to be white and have yellow bills and legs.

This variety of duck, however well-bred, as a rule, is not a very heavy layer, running from 40 and 60 eggs per year each up to 200 in very exceptional instances. An average of 80 eggs each for large flocks would be considered good. Their best laying season seems to be from December to June. However, there are those who manage to handle their flocks of ducks with great skill, and get a very heavy egg yield from this variety.

Bran, middlings, cornmeal or cracked corn and beef scrap, ground or soaked barley, are all very satisfactory feeds, and a large percentage of the mash should be green food in some form, or boiled vegetables; fish waste both boiled and raw is one of the most valuable foods it is possible to feed, being strong in phosphates. Unfortunately, when fed to market ducks the meat flavor is impaired and will ruin a fancy trade. But to grow the best and largest stock ducks where such a food can be obtained fresh, it can safely be fed twice a day.

In the East drakes attain the weight of even fourteen pounds, the Standard weight for a drake is eight

pounds. This just shows what can be obtained by careful breeding and heavy feeding; whether such an enormous size is an advantage I am not prepared to say. I think, however, we had better stick closer to Standard weights.

There has been a vast deal of difference of opinion about the ideal shape and type of head and neck of a Pekin. A short, thick head and bill are decidedly objectionable, what are termed "snouty." The head should be long; bill proportionally long and cheek deep; neck rather long and decidedly tapering towards head, but should be massive enough in proportion to body and lightly arched and very thick at base where joining body. The back across shoulders should be very broad indeed, and flat, and carrying good width back to the base of tail; a side view should give a very deep bird carrying its breast well off the ground in front, and in very heavy specimens nearly touching at rear; the shanks must be large and strong to carry such weight, and reddish-orange in color.

Many breeders come to grief in the bill of their Pekin. The bill in the male must always be a clear orange-yellow, positively free from black or horn colored stripes or green spots. It is permissible with the females, especially in aged classes, to allow black or slight foreign color on bills, as ducks when they begin laying well generally have this foreign color, from some unknown cause, appear down their bills. The plumage is white or creamy-white, according to feed and conditions of handling. They are successfully raised without water to swim in, but we believe in

natural conditions where possible.

Other Varieties.

In England the Aylesbury is the chief market duck. It is very white in plumage, with a flesh-colored bill; in carriage, well balanced fore and aft with a keel like a goose; are considered very superior in quality of flesh. Then there is the Rouen, a large slow-maturing duck. The drakes are very handsome, similar to the wild mallard. The Cayuga, a native of New York State, a beautiful greenish-black, a very easy keeper and a splendid table bird. It is a little hard still to breed free from white in neck and breast.

The Black East India, like the Call, is a small attractive bird, kept as an ornamental water fowl; the Blue Sweedish or Blue Orpington, as some tried to call them. They are a very large, bluish-grey bird, and considered a good market duck.

As Layers.

When we come to ducks for layers, there are only two serious competitors: The Indian Runner and the Buff Orpington. As bred to their two separate standards totally different types, but as we see the Runners in California, they are of the same Runners for eggs. Both have proved wonderful producers, but results so much depend on method of handling and feed. Where one party makes a total failure, the next has wonderful success.

There is no question, however, when it comes to looks, as the Buff Orpington is one of the handsomest

Continued on Page 587

For practical cow milking machine see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles.



Our New Catalogue

Is profusely illustrated and contains much valuable information about trees and nursery stock. Printed in English or Spanish. Sent free to any address. Price list mailed on application.

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Every One True to Name

Citrus

Our trees are all grown in the finest soil and under perfect conditions for the production of strong, healthy trees with well developed roots.

Our Citrus Trees

All are grown at Exeter, in the great Thermal Belt of Tulare county. The stock is the very best, and the deep, black soil in which they are grown develops trees with magnificent root systems and fine thrifty tops. Oranges, Lemons, Pomelos, Limes, Citrons in the best varieties.

Our Deciduous Trees

All are grown in a deep, alluvial, river bottom virgin soil; consequently, the root systems are as perfect as good soil can make them. Our assortment of apples, pears, peaches, plums, prunes, apricots, etc., is very complete in all of the best varieties.

Roses and Ornamental Trees

Our rose stock is the finest we have ever grown. Can be supplied in bush and tree form.

We have the largest stock of ornamental trees on the Coast. Order now.

Ornamental

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BURBANKS NEW CREATIONS

Santa Rosa Plum

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Vesuvius, the beautiful foliage plum

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We are sole propagators and disseminators. Send 10 cents for our illustrated booklet about these new and valuable creations.

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GEO. C. ROEDING, President and Manager

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Our system of packing trees and plants for shipments makes it certain that when received all will be in perfect condition.

Walnuts

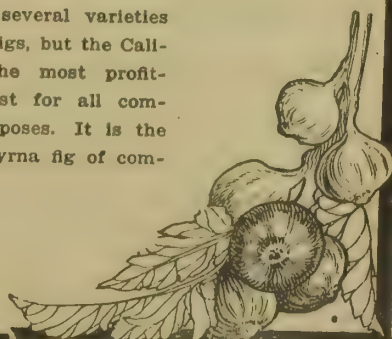
Franquette (Vrooman Strain) and other leading French and California types in grafted trees and also seedlings grown from selected seeds. All strong, healthy trees with well developed roots.

Grape Vines

We are the largest growers of vines on the Pacific Coast. All the leading raisin, wine and table grapes. We make a specialty of vines grafted on phylloxera-resistant roots, and can furnish them in any quantity, as well as vines on their own roots.

Calimyrna Figs

There are several varieties of Smyrna figs, but the Calimyrna is the most profitable and best for all commercial purposes. It is the genuine Smyrna fig of commerce.



Warranted to Give Satisfaction.

Gombault's Caustic Balsam



Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for
Curb, Splint, Sweeney, Capped Hock,
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Puffs, and all lameness from Spavin,
Ringbone and other bony tumors.
Cures all skin diseases or Parasites,
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Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism,
Sprains, Sore Throat, etc., it is invaluable.
Every bottle of Caustic Balsam sold is
warranted to give satisfaction. Price \$1.50
per bottle. Sold by druggists, or sent by ex-
press, charges paid, with full directions for
its use. Send for descriptive circulars,
testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.

Live Stock and Dairy

IMPROVING THE HERD.

THE common cows of California are of mixed blood, very mixed, so that they are ready to be used for foundation stock for either beef or dairy purposes. They are cow and cow only, and blood strong in either direction pushes them quickly into desired lines. I had no trouble in raising in the second and third generation, good milking cows from common stock when a prepotent dairy sire of registered stock was used at the head of the herd. The cows nearly all reached the three hundred pound mark in the second and third generation. The poorest were, of course, culled out for beef of each generation. Of the third generation there were some that ran as high as four hundred pounds and one old dame that reached over four hundred and fifty every year.

Registered Sires.

I am dwelling on this peculiarity of California cows of going rapidly to either beef or dairy grades when headed by a good sire, because I have been lately talking to some Eastern dairymen. These men express surprise at this flexibility and think it was alfalfa that made it. We reasoned over it for a while, when I found that they were considering that the sire need not be a pure breed one, that a good grade would do as well. The California dairyman that tries to breed up his stock, almost to a man, is doing so by the use of a registered sire. There was where the cows, were thought to show results quicker than in the East. I know that it is a foolish mistake to use any males for breeding purposes that are not full bloods. If the male is not strongly bred into his special purpose, then it is impossible to count on his forcing the offspring of cows, not bred for special purpose, in any known direction. Do not use a grade sire, hoping to improve the milking quality of the heifers. It may do it in one per cent but it is pretty sure to make ninety and nine heintzies. What is a heintzie? Fifty-seven kinds' under one hide.

Three Hundred Pound Cows.

Now, many will say three hundred pounds of butter is not much! I grant you it would not be for a herd of registered cows. Yet, really, is your herd doing it? Have you actually kept the Babcock in use on your herd and counted in every cow milked? Those milked for a short time, and the cows that went to the butchers in the middle of the year! You would really think that the dairyman was afraid of hurting the cows' feeling, the way they will conceal the fact that old Reddy, or young Spot are eating their heads off every year.

Do not in making a record, guess at anything. Do not guess that so many pounds of milk went to the house for the family, or that this milk contained so much butter fat. If you will, stop to estimate, then reason it out. I had a milker tell me that the men's house used five gallons of milk a day, that this would make two pounds of butter more a day for the herd. I went at once and saw the actual amount the men's house had received and found it was two and a quarter gallons instead of five.

Veterinary Instruments, Black Leg and Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

False Estimates.

The high butter content that the milk going to the house is estimated as containing is another source of error. When a herd's milk is testing four per cent the allowance for butter fat in the milk sent to the house is estimated at eight and ten. Why? The wife and children may be the greatest of riches to a man. The milk will not have a single per cent. of butter fat added to it because the richest possession are using it. This buoyancy of spirit, this hopefulness, is commendable now in the time of financial depression. Only do not stir it into your accounts! The bank will not show the balance as any larger and it will make you more extravagant in using money.

Babcock Tests.

The Babcock test is simple enough to be used in every dairy. The cows should always be tagged in the ear. Now, at present, these tags are only used where there are more cows than can readily be known by name. I think it pays to have them in any herd, no matter how small. When milkers are changed, if the cow's number is used instead of a verbal description, there can be no mistakes made as to the cow in question. If I had only two cows, I should have them ear-tagged, for then written instruction as to breeding, feeding and general care can be minutely given. How hard it is often to deal by description was clearly brought out to me by having the foreman and book-keeper letting a dark brown mare run away and then advertising her as

a sorrel. When I asked them why, I found out that all their lives they had called everything not bright bay, black, gray or white, sorrel in a horse. These were intelligent men!

Ear Tags.

Ear tags are made of soft steel of various patterns by different makers. The loop tag of the Dana type seems to be the most satisfactory. The button type of aluminum have also their friends. Sometimes the buttons are too tight and presses on the ear, forming abscesses. When this occurs the button is usually cut off. This takes the end of the ear. Now if one has registered and grade cattle in the same string, the usual way to keep the herds separate is to snip off the end of the ear of every grade calf when it is dropped. This is a mark for life. Now if the end is cut from the ear of a pure bred, then the herd is in confusion. The loop tags often catch in barb wire and are pulled out. This leaves a jagged tear. If it is discovered while the wound is fresh a few stitches make it whole again. The tags should be put in while the cows are young so they will forget the pinch the ear receives when the tags are inserted. When a cow is tagged just before taking the weights of the milk she will be restless and nervous about having the ear taken hold of to read her number. Any nervousness or agitation will affect the milk yield. A cow and a cat are different from a horse or dog. When a horse or dog are ill, they seem to ever remember that you tried to help them. A cow or cat remember it, too, but as a piece of interference or persecution on your

Veterinary Instruments, Black Leg and Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

The Whole Truth In A Nut Shell

Middle-
burgh, N.Y.
Sept. 4, 1907.
I am using your
U. S. Separator
and am well
pleased with
it. My U.S.
is not out

of order
every week
or two as my
neighbors who
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makes, ARE.
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WORM.

It's "Reliable"

And RELIABILITY is "THE quality of qualities." A reputation for RELIABILITY is not won in a day, a month or a year. Consistent performance during the slow testing of time, alone is sufficient to prove that most satisfactory of qualities—RELIABILITY. Each year for past sixteen years, the

U.S. CREAM SEPARATOR

has been adding to its reputation for RELIABILITY which is UNEQUALLED today. Dairymen today choose the U. S. because they KNOW it can be depended upon to do the Best work ALL the time and the Longest time, too. Time has PROVED it.

Mr. Van Worm's few words sum up completely the many reasons why dairymen everywhere are fast exchanging their old style, unsatisfactory or "cheap" separators for the RELIABLE, clean skimming, up-to-date U. S. If you have one of "the other kind," WE'VE a proposition to make you. Just ask us about it, please.



The thirty illustrations in our new catalog enable you to easily SEE why the construction of the U. S. makes it the most RELIABLE and profitable. Won't you send today for free copy? Just ask for "No. 20."

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Eighteen Distributing Warehouses

Prompt Delivery Assured

California Customers from San Francisco warehouse. No delays. Address all letters to Bellows Falls, Vt.

VENADERA HERD OF REGISTERED JERSEYS

FOR SALE RICHLY-BRED YOUNG bulls from cow having High Official Yearly Records. Also a few heifer calves of best breeding. For particulars address

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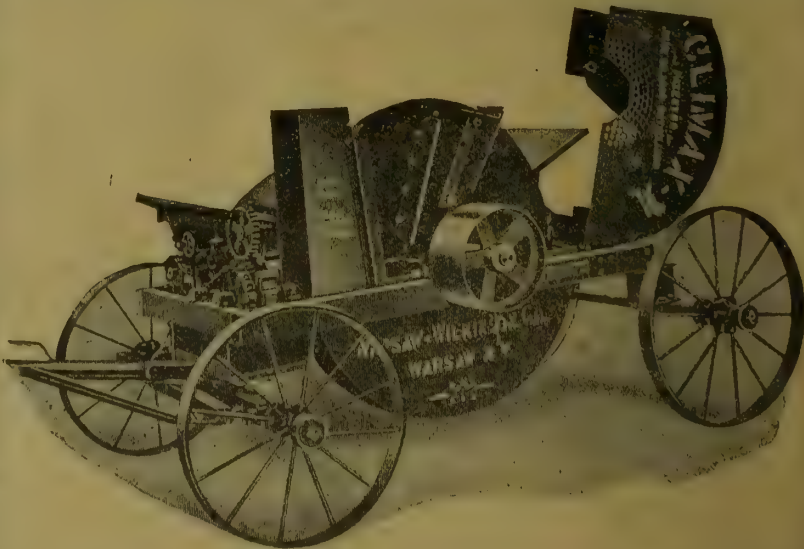
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The Whiting Jersey Stock Farm Company

In making the very best strains of blood fresh from the island of Jersey a specialty.

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Climax Ensilage Cutters



In the Climax Pneumatic Ensilage Cutter both the cutting and elevating are done by a large wheel which carries the knives on one side and the elevating fans on the other. Both the cutting and elevating, therefore, are done at one operation, in a much simpler manner and with an expenditure of much less power than in those machines where the elevating device is a fan attachment added to the cutter.

The convenience of having an ensilage cutter of large capacity on its own road wheels is obvious. We confidently assert that no other ensilage cutter is so easy to work and easy to move and set up as ours, or has such large capacity for power used. They are unequalled in simplicity, strength and durability, convenience and safety in operation, and the excellent quality and uniformity of the silage.

We received at the

St. Louis Fair the Only Award

for ensilage cutters of the side-wheel type, 15 to 25 tons of green corn per hour, where cut in one-half-inch lengths, other feed in proportion. For further particulars, call on or address

O. J. Weber Co. 555-557 South Los Angeles Street
Los Angeles, California

part, and do not thank you in the least. Indeed, rather avoid having you touch them again.

Cow Ledger.

Have a cheaply bound book to use at the barn, for it will become stained and soiled. Put down the milk weight at once. Each cow should be given a page with her number at the top. Then a space ruled for the date, then more spaces three for morning, noon and night milking. Then a space for per cent of butter fat. Leave the rest for any notes on the cow's general condition, or the feed, or anything that is of interest in relation to this particular animal. This is the book also to be used in the testing room. Write across the ruled space when the cow goes dry. Then when she comes in again, give the date, sex of calf and the number it was tagged.

The desk ledger is a well-bound book and into it these records from the barn ledger are copied. On the opposite page, put in the cost of feeding, milking, and the general maintenance cost. This general cost includes everything about the barn and corrals and pasture. This general account can only be made up once a year. If it is not charged to the individual cow as part of her cost, then the place may run at a seeming profit, when fences and barns are tumbling down. It is wonderful how quickly the ledgers cut out wasteful feeding. It also shows the value of grooming, shelter and gentleness in handling the herd. In starting the records of grade herds the heifers, often, do not come up on the grain fed as they should be. In this case the record is left on the barn ledger until it is known definitely that the heifer will remain part of the future herd. Often a poor heifer is one that may have been nervous and then as she was troublesome, the milking stool was used to comb her down. When the nervousness passed these heifers often come out surprisingly well.

Mighty particular? Yes! It pays in dollars and cents. Sometimes, however, people disagree with you on the subject. You have not heard of the man that said to the landlord of the hotel, "I say, landlord, that's a dirty towel for a man to wipe on." Landlord replied with evident amazement, "Well, you're mighty particular. Sixty or seventy of my boarders have wiped on that towel this morning and you are the first that found it dirty."—Mrs. M. E. Sherman.

BARRENNESS.

Barrenness, sterility, or failure to breed in cows and heifers, is due either to imperfect, unnatural, or diseased genital organs.

Imperfection of the genital organs is one of the causes of barrenness, and may be due to an undeveloped womb or imperfect ovaries.

It is usually the case that when a twin heifer and bull calf are born, and the bull proves to be fruitful, the heifer is barren, and vice versa. If this be the case with the heifer, she is not liable to come in heat at all, and is very apt to take on a very masculine appearance, more often having the appearance of a steer than a bull. Even after she has arrived at breeding age the breeding organs are undeveloped and there is no sign of an udder, this being proof of imperfect genital organs.

An animal thus afflicted can never be made to breed.

Wood Sole Shoes for Creamery Men, Farmers and Milkers. O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.



An unnatural, swollen and inflamed condition of the genital organs may be brought on by a retention of the afterbirth, this being allowed to be retained in a decomposing condition until it rots away, leaving the mouth of the womb irritated, scalded and sore, so that when it does close, it heals closed so firmly that it cannot be opened without mechanical aid in the form of a dilator.

The genital organs may become diseased from several causes, chief of which is neglect, in cases of retained afterbirth, the same becoming decomposed and converted into matter, causing a catarrhal condition of the mucous membrane of the womb and vagina.

If a cow be served while in this condition, the semen of the bull will be destroyed by this corrosive discharge, thus preventing conception.—Dr. David Roberts, Cattle Specialist, Wisconsin State Veterinarian.

DAIRYING THAT PAYS.

A few farmers make a handsome income from their dairy—many, achieve a moderate success—some, do not begin to make as much money out of their cows as they should. The man who wants to have his cows pay a good profit, and pay this profit all the year round, cannot study the problem too carefully.

One of the most helpful books we have seen on the subject of profitable dairying, has just been received from the Vermont Farm Machine Company, of Bellows Falls, Vermont. In condensed form, it gives facts and figures that will prove extremely interesting to those who are ambitious to find the right way of running a dairy farm. The Vermont Farm Machine Company will send free copies to those of our readers who are interested in the subject.

In order to insure prompt receipt, those who write the Vermont Farm Machine Company might mention this paper.

It is estimated, that in filling the clean by the farmer, so after all clean milk depends on the farmer. silo each cow should be allowed three tons. If the farmer has 30 cows and desires to build a silo, she should build it large enough to hold 90 tons.

See us for Sanitary Milk Bottles. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

Increasing Yield Decreasing Feed

Milk is secreted wholly from food elements given in excess of that required by nature for physical maintenance. Milk production, therefore, is really the result of unnatural feeding.

Man, however, goes yet further and asks the cow to not only consume more food than she needs, but to continue the stuffing process for months when nature would limit the milk-producing period to the brief infancy of the calf. A little thought shows how impossible it is for such conditions to long continue without bringing derangement of bodily functions. Indigestion, loss of appetite and consequent loss of flesh and milk, are common troubles resulting from heavy feeding.

DR HESS STOCK FOOD

is an infallible preventive of and remedy for digestive disorders. It is a tonic, the prescription of Dr. Hess (M.D., D.V.S.) and contains the bitter principles which aid digestion, iron to nourish the blood and nitrates to cleanse the system. Given twice a day in the grain ration, it will cause the largest possible proportion of food to digest, thus increasing yield at an actual lessening (under favorable conditions) of the amount consumed.

Veterinary and medical authorities, like Professors Quitman, Winslow and Finley Dun, endorse the tonics, etc., contained in Dr. Hess Stock Food. It gives a greater appetite for coarse fodder, increases the proportion assimilated and decreases the amount lost; makes steer, hog or sheep fat quickly and cheaply and is the best known tonic remedy for horse ills.

SOLD ON A WRITTEN GUARANTEE.

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We wish to call your attention to the fact that we have a large stock of Wood Sole Boots and Shoes of the very best quality. The Uppers are made of the very best quality Milwaukee Oil Grain. The Soles are well-shaped and are an exact and comfortable fit, and our **Patented Fastening** makes this a **Waterproof** Shoe. We all know wood is a non-conductor, consequently it is much drier and a great deal **warm** in winter. They are lighter than Rubber or Leather Shoes and Boots. Shoes, \$1.75; Boots, \$3.00; Rails, 25c extra.

O. J. Weber Co. 555-557 S. Los Angeles St., Los Angeles, Cal.



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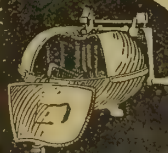
will enable you to get the greatest results from your cows.

A 20TH CENTURY BABCOCK TESTER and an **IDEAL MILK SCALE** will indicate just what each cow is doing, and inform you what returns you should receive from the creamery. Some cows are profitable, others are not. Get rid of the poor ones and buy good ones. Ask for catalogues A and B.

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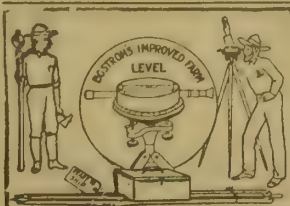
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Look through a microscope at milk set to cream in pans or cans and you'll see how they rob you. You'll see the caseine—the cheese part—forming a spider web all through the milk. You'll see this web growing thicker and thicker until it forms solid curd. How can you expect all the cream to rise through that? It can't. This



caseine web catches a third to half the cream. You stand that loss just as long as you use pans or cans for they haven't enough skimming force to take out all the cream. But, just the minute you commence using a Sharples Dairy Tubular Cream Separator, you stop that loss.

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When writing advertisers mention Cultivator

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Bloat.

Kindly answer a satisfied subscriber the following question in "Queries and Replies" column. I have a four-year-old cow subject to bloating; particularly so during three or four months before dropping her calf. She is a good milker and is bright and healthy in other respects—gets a variety of food, very little alfalfa or clover. The attacks do not last long, but she is quite often slightly bloated. Lewis Kirkpatrick, Lakeside.

Give her a tablespoonful of baking soda with her grain feed and see that she has plenty of water at all times.

M. E. S.

"Briquettes."

Can you give me information about a machine for making briquettes of brush and arrow weed.—Subscriber.

We suppose subscriber wishes to know regarding the machines which bind and cut in small bundles, brush for fuel. Can any subscriber give information?

School Money or Auditor's Fees.

Some months ago a rural school district in the vicinity of Arroyo Grande voted school bonds payable in five years, to erect a new school building. The county supervisors approved of the bond election and sold the bonds at a premium. The county auditor had to make a list of all taxable property within the boundaries of the school district and to allot the interests of the bonded sum plus one-fifth of the principal to the taxpayers of the district as school-bond taxes for next year. This listing and allotting is considered as extra work by the auditor and he sends a bill amounting to five dollars to be paid to his assistants, out of the funds of said school district. But the trustees of the district maintain that the auditor and his assistant draw a good salary from the county for all work connected with their office, and that no school board has a right to spend any of the children's money for doubtful fee bills. Besides, they consider that, since the bond amount be paid each year changes on account of the decreasing interests, and since the taxable property within the district may increase or decrease with every year, there has to be a new allotting of the taxes made each year, and, consequently, the auditor may come in with a like bill for extra work every fall. The auditor threatens the school board with a lawsuit, stating that it is customary to pay for such extra work, but the trustees do not waver from their decision.

Since there are so many cases of bonding school districts for extra expenses occurring every year in our State, it is a question of vital importance to find out if any provisions of our State laws entitle the county auditors for any extra compensation on the part of school districts for the allotting of the school bond taxes. The writer of these lines, therefore, submits the question to the legal adviser of the Cultivator if the trustees of above said school board are right or wrong in refusing to honor such bills.—A. S., Arroyo Grande.

This was submitted to Mr. Fall and his decision is:

The statute makes no provision for the payment of extra charges of above character. It is proper for the board to refuse payment.—L. M. F.

Growing Vetch Seed.

Can you give me any information on growing vetch for seed near Santa

Ana? I have some good alfalfa land on which I would like to try to grow it. This land is a rich black soil and seven miles from the ocean. I understand the seed is shipped in from Oregon. Can you tell me in what part of Oregon it is grown?—A. T., Santa Ana.

Vetch seed can no doubt be grown in this State profitably, though we do not know of any large tracts of land devoted to that purpose. The usual practice is to sow 35 to 50 pounds of vetch with about 30 pounds of wheat to the acre in December or January. The wheat being sown to hold the vetch off the ground so it can be harvested. A loose, sandy soil is better for vetches than the heavy adobe soils.

The present supply of vetch seed comes almost entirely from the Willamette valley in Oregon.

ARE YOU GOING TO BUY?

An incubator or brooder? If so, you want the best you can get for your money—everybody does. All I ask of you is to investigate what I have to offer in this line. If you want to know who has one of our Incubators near you, that you can see, write me. I can tell you an owner of one of them in every town in the State—no matter where you live—there is one of our machines in that vicinity, and if it's there its giving satisfaction—or it would have been sent back. DON'T PAY big prices for Incubators and brooders—prices don't make eggs hatch, the Old Trusty Incubator is the lowest priced Incubator sold today on the Pacific coast. What other machine at any price has, genuine 12-oz. cold rolled copper heater and boiler, double walls, double doors, double top and bottom, nursery drawer, perfect automatic self regulator, smooth clear top, first grade redwood lumber and equal workmanship at anywhere near the same price?

If you can tell me, I want to know. I will buy a few carloads to get the agency. We can and do make the lowest price ever made on this coast on Incubators and Brooders.

We buy several carloads of Incubators at a time, part of these are sold in Oregon, Washington and Idaho by our northern house—that's why we can make the low price. We buy lots of machines and pay spot cash before they leave the factory. If any one or (dealer) doubts this I challenge them to dispute it in the columns of this paper. Also to dispute the fact that we sell more Incubators and Brooders than any dealer in Southern California—bar none. Send for my catalogue and poultry book, 120 pages; it's free. Explains the free trial offer and guarantee we sell on.—E. E. McClanahan, 711 S. Main, Los Angeles.

Experiments with cotton in the Imperial Valley this year have been very promising. One grower at El Centro having quite a large stand during the past season. The fiber is said to be very fine.

Southern California has had excellent returns for its shipments of oranges to England, and it is reported that the shipments this year will be far more liberal this season than in the past.

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

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TELEPHONES specially adapted to farm lines. Sold direct from factory. Book of instructions how to organize farmers and build line free. Write for Bulletin No. 308. The North Electric Co., Cleveland, O. Kansas City, Mo. Dallas, Tex.

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—you wear it—and if it doesn't satisfy you, you send it back to me and I will refund your money. The banks or any responsible citizen in Marshall will tell you that is the way I do business—always absolutely on the square and I am selling thousands of people this way for the past five years. Remember I use no salves, no harness, no ties, no fakes. I just give you a straight business deal at a reasonable price.
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The Cornish Indian

An Enthusiastic Breeder Who Is Winning With Some Exceptionally Fine Birds.

The Best Table Fowl Grown.

Mr. W. H. Smith of Pasadena is a very enthusiastic breeder of the Cornish fowl. Several years ago he took a liking to this breed, and he was not content until he had a few of these fine birds.

As the Cornish fowl is growing in popularity very rapidly in California, a word as to origin and history might be appreciated.

This breed was commonly called the Indian Game and afterwards the Cornish Indian Game, and are still called the Cornish Indian in some localities. We consider it a mistake to



Cornish Fowl Cock.

First at Santa Ana, Second at Los Angeles, 1907.

Owned by W. H. Smith, Pasadena.

let the name game be attached to them as it prejudiced many who would otherwise have liked and bred them, as they are among our best table fowl.

The Cornish fowl were first exhibited at Crystal Palace and other shows in 1858, but it was practically unknown outside of Cornwall, England, for nearly twenty years after that date.

They were first brought to this country by Adams Thompson, about 1880, who has done much to improve the breed.

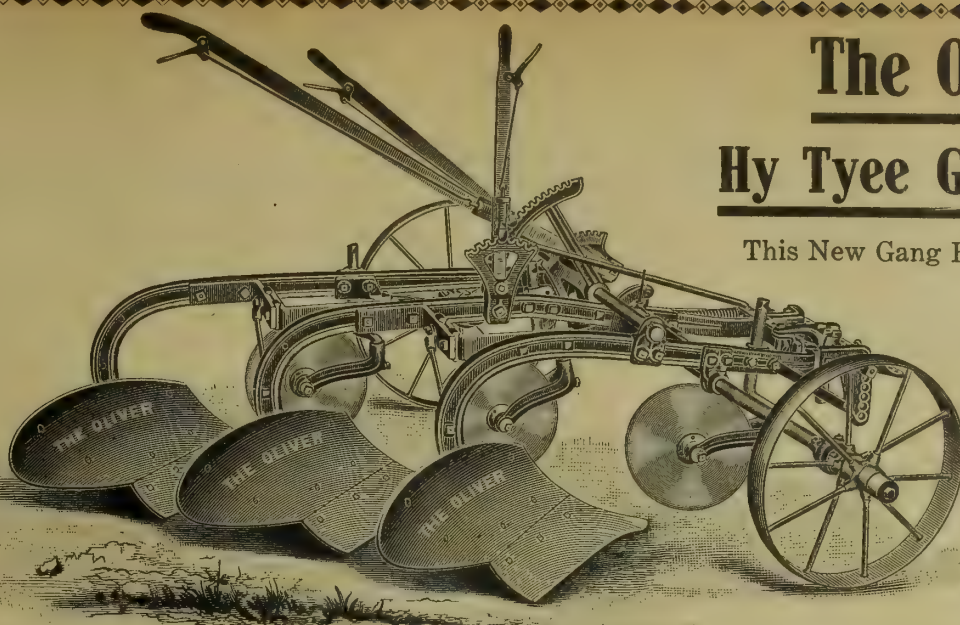
When Mr. Smith bought his first pen of these birds, he had a hard time in securing stock to suit him, as he is a very severe critic and used great care in selecting his birds. The cock bird shown herewith is a typical specimen of the breed. He was a first prize winner at Santa Ana, and won second prize at the late Los Angeles show, in the strongest class ever exhibited on the coast, losing only to an imported bird which was a winner at Manchester, England. Mr. Smith also won fourth on him. He is a careful breeder and gives his stock good care and we are glad the Cornish fowls have him as a friend, as he will give much time, work and study in perfecting this breed. He will do much to put them in the front rank, where they belong.

Mr. Smith was one of the charter members of the Pacific Cornish fowl club and is now the first vice-president.

612 Egg Size

Incubators now ready. Investigate is all we ask. Catalogue. Hot water, of course.

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Perfection in strength

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Perfection in range of adjustment

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Furnished with Steel or Chilled Bases for all kinds of soil. Adjustable to cut 24, 26, 28, 36, 39 or 42 inches. Furnished with two or three bases. All lever adjustments, including landing or draft control, may be easily and instantly operated while plowing.

Walking or Riding, Steel or Chilled Plows

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Newell Mathews Co.

Vehicles and Implements

200-202-204 No. Los Angeles Street, Los Angeles, California

DUCKS.

Continued from Page 583

of the duck family, either male or female. It has beautiful soft and solid body color, fawn or bluish-brown; the drakes having a seal brown breast. No white should appear in plumage.

Muscovy in white and colors are different in habit. Will go to roost with the hens. The colored grow very large, and we used to cross them with Rouens in England to produce enormous table birds; this variety are considered pretty good layers.

The Crested White is more of fair size, with a great tuft of down on the back of the head, giving them more of a peculiar than a pleasing appearance.

The colored Cail is similar in plumage to the wild Mallard and his mate, but the two should not be confused, as the Cail is smaller, and very noisy. A very good distinguishing mark is the decidedly short bill; this is important; it is a breed I am familiar with. The wild Mallard is easily domesticated. We kept a drake pinioned (first joint of wing removed) for 16 years in England, and then he was stolen, together with an Egyptian goose, by some gypsies.

Other very beautiful birds are the Mandarin duck and the American Wood duck. Then again there are a whole host of small fry, too numerous to mention. Sheldrakes and Fantails are easily kept in captivity; the above will show that.

The duck field is large, and herein has been enumerated a wide order to select from, either by the millionaire or just plain duck men.

PAT'S SOLILOQUY.

The strangest idea in the wurruld to me, That is taxin' me noddle at prisent, Is how can a poultryman make it to be, That a chicken is drissed whin it isn't.

An old hen was pecking at some stray carpet tacks in the backyard. "Now, what do you suppose that silly hen is eating those tacks for?" asked Tom. "Perhaps," said his wife, "she's going to lay a carpet." —American Thresherman.



RHODES DOUBLE CUT PRUNING SHEAR

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Two of the volumes are now ready. Others will be mailed as published. Write for prospectus.

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Sausage-
More Lard

Trying to make sausage and lard without the help of the **Enterprise Sausage Stuffer and Lard Press** and the **Enterprise Meat Chopper** is the wrong way; it's a waste of labor, a loss of lard, and the most expensive way in the end. The **Enterprise Sausage Stuffer** shown in cut is a necessity at butchering time. It has a Patented Corrugated Spout which prevents air entering the casing, thus assuring the preservation of the sausage.

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always works perfectly. The cylinder and plate are bored and turned to an exact fit, preventing meat working up over the plate. Can be changed to a perfect Lard Press in a minute. Equally useful as a Fruit Press when making wine, jelly, etc. The **Enterprise Meat Chopper** cuts sausage meat just right, as it must be. And whether the meat is tough or tender, it is all cut—not ground. Sold by Hardware Dealers, General Stores, etc. Look for the name "Enterprise" on the machine you buy. Write for the "Enterprising Housekeeper," a valuable book of 200 recipes and kitchen helps. Sent FREE.

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No other firm could afford this but us

This is the first time we have ever made this offer—this beautiful 4-piece set of Silverware (guaranteed;) full size for family use packed in case,

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It is done solely to advertise our product and only one set will be sent to each family, with positively no duplicate orders. The plate is heavy and the pattern one of the latest and most fashionable—the famous "Rose." The pieces are Fit to Grace any table and will last for years.

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Why? There is no part of it that you can't see through the new port just opposite the feed, so you know just as much about it as we do.

1908 Model, 4 Sizes, now ready for delivery.

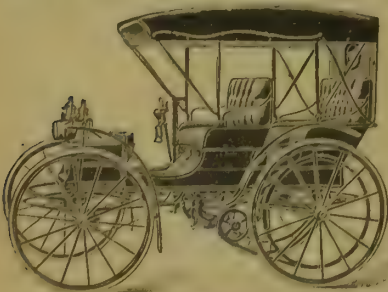
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You can burn 100,000 feet of air with every 130 gallons of oil; this means perfect combustion. To burn more than 100,000 cubic feet of air with 130 gallons of oil, there is a decided loss of heat. To burn less than 100,000 cubic feet of air there is a loss of fuel. The only safe and reliable burner on the market. Send for full particulars.

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Household Department

DOODLE DANDY.

A rooster once in Barnville lived, whose name was Doodle Dandy. His wife—a little Bantam hen—was sweet as honey candy. But roosters are a fickle lot, and Mormonish by custom, A hen is just an awful goose to ever, ever trust 'em! While little Bantam sat at home a hatchin' of her chickens, Old Doodle Dandy strutted round a kickin' up the dickens.

He flirted with the other hens; was bold as you could make 'em, And brought them most expensive worms (that's when he didn't shake 'em.)

At night, hed gen'rally strut back—to sleep at home was handy. He occupied most all the nest, this selfish Doodle Dandy, And ev'ry day at dawn he'll call out "Cock-a-doodle-do,"

Which meant, "Fix up my breakfast, ma'am, and fix it quickly, too!"

At last the little Bantam hen got tired of how he used her, And went and joined the harem of a very decent rooster.

He was a warm-large-hearted bird, and though his wives were twenty,

None of them ever jealous were—he loved them all a plenty.

He warned all of his twenty wives how kindly they must treat her, For 'sides a downright handsome hen, for laying none could beat her.

And now the false ex-hubby is as lonesome as can be;

No decent hen will take the time to fuss with him. D'you see?

And his once cosy, well kept home is now, alas, to let,

For not a soul to keep his house can Doodle Dandy get.

His head is bald, his eyes are bleared, his legs are weak and bandy,

And since he took to drink they cease to call him Doodle Dandy.

—Exchange.

PLUCKING A DUCK.

DEAR Mr. Editor—Did you ever pluck a duck? Well then you ought to try! It's a most exhilarating pastime when you have a fortnight's holiday in the cold weather. You can't do it in the summer; the duck won't keep till you're through.

Last Saturday week morning I was in the middle of sweeping the yard, when the wife called out: "John, dear, how about duck for dinner to-morrow?"

Visions of roast duck and green peas rose up before my eyes, and I seemed to be getting a savory sniff of onions, thyme, marjoram, gravy and the other adjuncts. It was glorious!

"Right you are, darling," I replied, "nothing better."

There was a lovely four-mouths' Muscovy waddling about the yard, so I ran him down, snicked off his head and wired in.

About two hours afterwards one of the youngsters came out to the shed to tell me lunch was ready. Upon taking my seat at the head of the table the wife asked: "Have you nearly finished the duck, John?"

"Well," I replied, "I've shifted a great many of the feathers you can see as he runs about, and only tore the skin in seven places so far."

She seemed worried and muttered something about torn skin spoiling the cooking.

"It's all right, sweet," I said, "he'll go down A1."

About 3 o'clock she herself came out, nicely dressed, and asked me if I was ready to take her for a stroll.

"Why, my own, how can I?" I asked, "I'm only on to the left leg, and there are still the wings, back and neck."

She frowned, turned away, and presently I heard the click of the gate latch. I knew she had gone for her Saturday afternoon walk by herself.

By tea-time I was nearly choked with fluff, and my thumb nail had cut into my first finger in continual savage attacks at the pin feathers. Had run out of tobacco, too. It was maddening! So when little Nellie (she's the five-year-old), asked me to go in to the evening meal, "Don't want any tea," I snapped.

You see, there was a vestry meeting that night, and I swore that the darned duck wouldn't keep me away. So I got a pair of pincers for the pin feathers, and started singeing the fluff with lighted paper. Ye Gods! in about ten seconds the complexion of that duck was a cross between the hue of an Australian aboriginal and a Fijian. I used the scrubbing brush, but it wouldn't come off. Then I swore. You, Mr. Editor, who know me so well, wouldn't believe it, But I really did.

When the wife came out to tell me it was time to go to my vestry meeting, I said: "D—; I mean it's too late to think of it now."

Then she flashed out. "John, you're the slowest man I ever saw, and (she nearly spat this at me,) "the worst-tempered!"

And now, dear editor, I won't continue lacerating your tender heart by recording my further sorrows. I won't tell you how I stayed up till midnight, bullocking away at that Muscovy, and lost my vesty meeting. Nor will I state how I stayed in bed next morning till eleven, while the four walking youngsters worked away at the duck, and the baby jabbed in with a spoon. Nor will I state how these, my own kids, now slight me.

I haven't been to church for two Sundays running. I have been using a fair amount of language lately. I am not a hypocrite, and I hold that a man who is addicted to "language" should absent himself from the house of prayer.

All these things are bearable, but oh! Mr. Editor—I do feel this—SHE is not speaking to me now. But I have not lost hope—I am thinking of you. You are the one individual who can put matters right for me. Well do I know your amiable disposition, your tact, your conciliatory nature. You will put in a word for me! You will explain the difficulties that beset a fellow's path in the way of pinfeathers, fluff, etc.

Come up next Sunday and plead with her on my behalf. Come up and spend the whole day, and for dinner we'll have baked potatoes, cauliflower, and a nice shoulder of mutton—Australian Hen.

"THEY SAY."

"I had rather 'They Say' should tell a lie than myself."—Horace Walpole.

In the bright glare of truth's celestial flame The spirit Ananias could not stay, And leaving blest abodes came here to stray. Fearing the stigma of his ancient name, Straightway he changed it when to earth he came From that of Ananias to "They Say." You can hear him almost every day, Uttering falsehood without any shame. He delights to mingle the crowd among, And circulate slander with mortal tongue.

Being a spirit you can't bring him in To a court of law to answer for his sin. It is best for you to ignore "They Say," Lest Peter may denounce you, too, some day.

ALL RIGHT.

The Cultivator is all right.—Frank Bowen, Glendora.



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Books and Papers

THE PRINCIPLES OF BREEDING.

A book just from the press of Ginn & Co., Boston, will create interest in thremmatology, the science which treats of breeding in its highest sense.

The book is by Eugene Davenport, Dean of the College of Agriculture, Director of the Agricultural Experiment Station and Professor of Thremmatology in the University of Illinois.

Professor Davenport's treatise on this subject of widespread and popular interest is the most comprehensive work of the kind ever attempted. The author is dealing with his specialty, and his experience on the farm and in the laboratory has enabled him not only to understand the problems of the breeder, but also to treat his subject authentically in the light of the latest developments in biological science.

He has presented the science in an entirely new aspect; that is, he has made variation instead of heredity the initial thought. The portion treating of the statistical method of study in heredity is the first of its kind in agricultural literature.

The air of the author is to present a safe and reliable text rather than to construct new theories of evolution. He has adapted his material especially to the student in the junior year of his college course, and to the practical breeder on the farm, care having been taken to present the technical matter in a way easily comprehensible to the student of breeding who may not be familiar with the phraseology of biological literature.

The text, however, is thoroughly scientific in its treatment, and will, therefore, appeal to the student of evolution and of sociology as well.

The Cultivator will deliver to its subscribers at list price, \$3.00.

WHERE THEY DIE ONLY ONCE.

A lumbering old stage was winding in and out over a remote road in the Adirondacks. There was only one passenger, and he had chosen to sit outside beside the driver. Several times he had tried conversation, but had met with so little encouragement that he had given up and was silently watching the landscape.

Presently they came to a tiny mountain burying ground containing a few grave stones and a few unmarked graves. The passenger looked at it, struck by its air of loneliness, which seemed to stir in him afresh the desire for human intercourse. He turned again to the driver, pointed toward the graveyard, and observed:

"People around here don't seem to die very often, do they?"

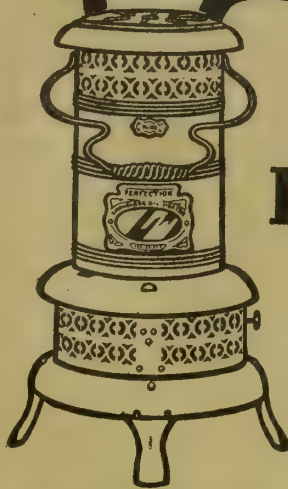
And without turning his head, "Jest once," said the driver.

NOT TO BE TALKED ABOUT.

"The children were having an object lesson on the guinea pig. The teacher called attention to the short tail, saying: 'You see, it has no tail to speak of.' Shortly afterwards she asked the scholars to write a description of the animal, and a little German girl wound up by saying: 'The guinea pig has a tail, but it must not be talked about.'"—Exchange.

Discontent is the ruin of our ambitions, and content is the cozy little home that we may build from those ruins.

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From Every Ounce of Fuel

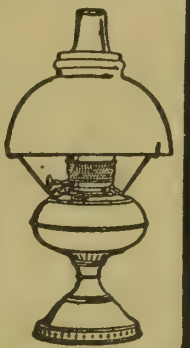


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(Equipped with Smokeless Device)

It's very light—carry it about—heat *any* cold room. Turn the wick high or low—no danger—no smoke—no smell. Easily cared for and gives nine hours of cozy comfort at one filling of brass font. Finished in nickel and japan. Every heater warranted.



The Rayo Lamp

with its flood of steady, brilliant light is ideal for the long winter evenings—read or sew by it—won't tire your eyes. Latest improved central draft burner. Made of brass, nickel plated. Every lamp warranted. If your dealer cannot supply the Rayo Lamp or Perfection Oil Heater, write our nearest agency for a descriptive circular.

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FOR SALE AND RENT—LAND IN choice 40 and 80-acre pieces on 1-10 down. Balance long time. Fine orange and grape land 17 miles south of Porterville. Earliest and best fruit, early potatoes, and all vegetables show largest yield. Wheat yield 10 sacks. We will rent you adjoining your piece 1/4 section for wheat on 1-5 crop. Best offer in California to get a farm of your own. Call or write, JOHN RUPP, 525 S. Spring St., Los Angeles.

FOR SALE—TWENTY-ACRE RANCH AT West Rialto. 600 apricot trees, 600 peach trees, 2500 Sultana grape vines, 110 orange trees, 12 years old; lemons, figs, apples, plums, English walnuts, almonds and olives; also one acre of alfalfa. First-class ranch house and plenty of water. This is a fine home, producing a good income; will be sold cheap for cash. Address, CHAS. WILHELM, R. F. D., Rialto, San Bernardino Co., Cal.

HOG HEAVEN—COME TO OREGON PERfection hog-raising country, where there is green grass and mild weather all year round; where hogs can be quickly fattened on rutabagas, the best hog food; where pork is the highest price. The hog-raiser's paradise; can be raised cheaper than ducks. Address CHAMBER OF COMMERCE, Room 1097, Astoria, Oregon, for particulars.

FOR SALE—OR EXCHANGE—236 ACRES, one-half under cultivation; fine vineyard, balance pasture; house, barn; fenced; wood and water. Bargain. Address box 26, LOWER LAKE, Lake Co., Cal.

FOR SALE—40 ACRES, LEVEL; FINE for chickens, vegetables, berries, etc. \$30 per acre; a bargain. WM. MANTZ, Santa Maria, Cal.

TREES.

ATTENTION PLANTERS—KADOTA FIG the best of them all; one, two and three-year-old trees at wholesale prices; write for catalogue. Nurserymen get in line and grow the very finest fig, it's a money-maker. H. L. BAUER & SONS, 737 S. Spring St., Los Angeles, Cal.

20,000 SEEDLING AND GRAFTED WAL-nut trees for spring planting from selected seeds and grafts. A fine stock of apricots, peaches and plums. A. R. MARSHALL, nurseryman, Olive, Cal.

FOR SALE—50,000 BLUE GUMS—PRICE low if order is placed before Jan. 1st. 300 very large rose bushes and climbers ready to bloom at a low figure, to make room. Write for catalogue. A. L. BAUER & SONS, 737 S. Spring St., Los Angeles.

EUCALYPTUS TREES—ORDER NOW AND have your choice of any variety at any time, of any size. A. L. HURTT, San Bernardino, Cal.

EGGS FOR HATCHING.

EGGS FROM MY PRIZE WINNING Barred Rocks; won all special and 13 regular prizes on Barred Rocks at late Los Angeles show. Eggs from best pens, \$2 and \$3 per 15; \$10 per 100. Can furnish any quantity. Also offer extra bargains in breeding stock. CHAS. E. SMITH, Gardena, Cal. San Pedro Interurban car to Smith's Crossing.

BERRY PLANTS.

FOR SALE—KLONDIKE, EXCELSIOR, Arizona and other varieties of strawberry plants, \$2.00 per thousand, f.o.b., Gardena. Would like to deliver plants by first of January. Address, D. P. DUNCAN, Gardena, Cal.

FOR SALE—200 MAMMOTH BLACKBERRY, \$2.50 per 100; 1000 Himalaya Blackberry, \$5.00 per 100, \$40 per 1000; 2000 Loganberry, \$2.00 per 100, \$15 per 1000. Make money orders payable at Redondo, Cal. EUGENE J. SHARADIN, Perry, Los Angeles Co., Cal.

WANTED—ONE-YEAR OLD LOGANBERRY plants. Address, P. O. BOX 2697, Fresno, California.

W. J. ROOKS OF AZUSA, CALIFORNIA, has for sale a special fine line of Brandywine strawberry plants. \$2.50 per 1000.

BOOKS.

FREE—"THE POULTRY MANUAL." BY those high authorities, F. L. Sewell and Ida E. Tilson, profusely illustrated. Send us the names of twelve persons keeping any poultry and we will send it to you absolutely free and postage prepaid. WEST COAST STOCK FOOD CO., 818 San Fernando St., Los Angeles, Cal.

DUCKS.

INDIAN RUNNER DUCKS—A FEW FINE breeders for sale now laying; extra drakes. Eggs, \$1.00 per 12. Black Langhans, young stock for sale. CLYDE J. MOSE, Corona, Riverside Co., Cal.

SITUATION WANTED.

WANTED—SITUATION BY RELIABLE IN-dustrious, young man with California ex-perience in vineyard, orchard and general farm work. Address, "Vineyardist," care of "Cultivator," Los Angeles.

MISCELLANEOUS.

LOCATION WANTED—IN SOME GROW-ing western town of 4000 or 5000 population, where I can install a telephone and electric lighting system. Am willing to invest consid-erable money in a good, growing town. Have been in the business ten years. If you are interested, or know of some one that is in-terested, or know of a good location, please write me. N. B. STADLEY, Shelburn, In-diana.

FOR SALE—WHY PAY \$5.00 FOR CHRIST-mas presents? We have it. Imported 1x7 Cuckoo Clock, covered walnut case, four-foot chain weight, as an advertisement, \$1.20. Send money order. DEMMITT CO., 120 N. Main St., Los Angeles.

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FOR SALE—STOVER GAS ENGINES, SIM-licity pumping plants. LIVINGSTON & LEE, 352 S. Los Angeles St., Los Angeles, Cal.

FOR SALE—35-H.P. Westcoast gasoline engine, almost new, at a sacrifice; no further use for same. 943 N. MAIN ST., Los Angeles.

FOR SALE—Cheap, 22-H. P. Foos distillate engine, in perfect running order. 117 BRUNO ST., Los Angeles.

FOR SALE—IN A1 CONDITION, 60-H.P. Fairbanks-Morse gasoline engine, at a snap. WAITE, BAILIE & CO., Los Angeles.

POULTRY

WHITE WYANDOTTES—"CREAM OF THE Coast" strain—the 200-per-year kind. Barred Plymouth Rocks, my "Blue Diamond" strain, are great winter layers of big, brown eggs. No incubator lots furnished. Eggs per 15, after Jan. 1, carefully packed, \$1.50. Address WILLIAM C. PARKER, 111 Pacific avenue, Santa Cruz, Cal.

WHITE PLYMOUTH ROCKS EXCLUSIVE-ly. The largest flock of prize winning birds in the West. At the late Los Angeles show, 1907, we won twenty-three out of a possible twenty-five prizes. We offer extra bargains in our this year's breeders. Will sell to suit purchaser. Eggs \$2.50 per 15; \$10 per 100. A. J. LITTLE, Monrovia, Cal.

SACRIFICE SALE—LAST YEAR'S BREED-ers, White and Brown Leghorns from best laying strains, in lots of five or more at \$1.00 each, worth double the price. Also 30 fine mammoth Pekin ducks at \$1.00 each. HEMET POULTRY YARDS, Hemet, Cal.

BLUE ANDALUSIANS. WON ALL PRIZES at Los Angeles County Show, 1907. A few good trios and pens; also good breeding cock-erels; eggs for hatching, \$2 and \$2.50; no better stock anywhere. MRS. T. R. GRIF-FITH, 3111 Walton ave., Los Angeles, Cal.

PARTRIDGE WYANDOTTES—C. AN-drews, 215 N. Sutherland Ave., Hollywood, Cal. 11 prizes and silver cup at Poultry Breeders' show, 1907.

HOGS WANTED.

WANTED—THREE THOROUGHbred PO-land China boars ready for service. What have you, and at what price? J. A. WAL-TON, Redlands, Cal.

FOR CALIFORNIA.

The magazine "For California" pub-lished by the California Promotion Committee, devotes its entire No-venber issue to the subject of in-tensive farming in the State. Great changes have come over the agri-cultural conditions of California dur-ing recent years. The vast un-divided holdings that of old were given over to grain raising and pasturage have in a great measure been divid-ed up into small tracts of ten, twen-ty or forty acres each. And these small farms are in the hands of farmers of limited means who devote their acreages to varied crops. There is hardly a crop known to either the temperate or the semi-tropical at-titudes that is not wholly at home in the valleys of California.

Thousands of colonists have ar-rived each spring and fall during re-cent years, and this inflow of popula-tion has been principally absorbed by the newly created small farms. Much has been done for this move-ment by the scientific advance of ir-rigation, which has opened up im-mense areas of farming land in every part of the State.

The labor unions of Fresno have started a campaign against the em-ployment of Japanese in the fruit-cur-ing establishments and orchards. This is possibly all right, for the trickiness of the Jap is proverbial, but we must confess that the labor union should be in a position to supply labor to the fruit grower at a reasonable figure be-fore ordering any one else from the field.

F. H. Wilson, the Fresno nursery-man who lives at Dinuba, was doubt-less somewhat "hot" when he learned that forty-five bunches of grapes hung away in paper bags, which he had de-sired for exhibit at the citrus fair, had been stolen by "kids" who had put them in a condition not the best for exhibit.

Excursions were run from all over Central California to the Lindsay Fair last week.

The Produce Markets

Los Angeles Markets

LOS ANGELES, Dec. 11, 1907.

Butter.

Butter quotations in general market are still 67 1/2 for creamery extras, but some sales are now made at 66 or lower with many bids as low as 60 cents. A weak condition prevails on all grades. Lower grade stocks have declined in quotations.

Creamery extra per roll... 67 1/2
Firsts... 57 1/2 @ 60
Seconds... 60
Dairy... 45
Cooking... 45 @ 47
Eastern... 62 1/2 @ 65
"Butterine"... 15 @ 22 1/2

Cheese.

Cal Young America per lb... 20 1/2
Hand... 20 1/2
California Anchor... 19
Northern fresh... 17 1/2 @ 18
Eastern singles... 19
Imported Swiss... 32
Tulare flats... 18 1/2
Domestic Swiss... 21 @ 22
Oregon... 18

Eggs and Poultry.

The egg market is not so strong in tone as last week and quotations are slightly better. Some "fresh ranch" from northern cold storage are re-ported on the market. Some Eastern storage are being offered at 20 cents, while bids of 16 and 17 are made. General quotations now are:

Eggs local candled... 42 1/2 @ 46
Eggs case count... 42
Fresh Eastern... 30 @ 35
Eastern storage... 20 @ 23
Poultry is still on the dumps with the lower quotations often shaded.
Hens per lb... 12
Young roosters per lb... 14
Fryers... 14
Broilers per lb... 19
Old roosters... 7
Turkeys... 15
Geese... 12
Ducks... 11
Squabs... 1.75 @ 2.00

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.
Hogs from 175 to 200 lbs... 6 1/2
Prime steers... 4 1/2
Heifers... 4
Calves per lb... 4 1/2 @ 5
Sheep ewes per head... 4.75
Lambs per head... 3.75 @ 4.25
Wethers... 5.50

Potatoes.

The receipts of potatoes are now very heavy. One day's receipts ag-gregated 16 carloads. But all are readily absorbed and the market re-mains very firm.

Highlands... 1.15 @ 1.35
Early Rose... 1.75 @ 2.00
Salinas... 1.65 @ 1.85
Colorado... 1.75
Sweet potatoes per sack... 1.80 @ 2.00
Oregons... 1.30 @ 1.40
Idahos... 1.35

Onions.

Silver skins... 2.50
Yellow Danvers... 2.30 @ 2.50
Australian Browns... 2.25 @ 2.35
Globe... 2.50 @ 2.75
Oregons... 2.50 @ 2.60
Colorado... 2.30 @ 2.35
Garlic... 8

Vegetables.

Artichokes per doz... 1.00 @ 1.25
Beets per doz... 30 @ 35
Bell peppers green lb... 2
Beans Limas per lb... 4 @ 5
Beans green... 4 @ 5
Brussels sprouts per lb... 7
Cabbage sack... 35 @ 50
Celery per doz... 25 @ 35
Chili peppers green lb... 2 @ 2 1/2
Cucumbers per box... 30 @ 50
Pickling... 75
Corn per box... 75 @ 85
Cauliflower... 1.50 @ 1.75
Carrots per doz... 30 @ 40
Eggplant per lb... 2
Green onions doz bunches... 10 @ 30
Hubbard squash per lb... 1 @ 1 1/2
Lettuce per crate... 75 @ 1.25
Mushrooms... 1.00
Pie Pumpkins... 1 1/2
Peas sugar per lb... 4 1/2 @ 6
Okra per lb... 5 @ 6
Parsley... 30
Parsnips... 35 @ 40
Rhubarb per box... 75
Radishes per doz... 15 @ 20
Salsify... 30
Spinach per doz... 50
Summer squash crate... 15 @ 35
Turnips doz bunches... 40
Tomatoes per box... 75 @ 1.50

Citrus Fruits.

New oranges... 2.50 @ 3.50
Culls... 75 @ 1.00
Grapefruit seedless... 2.50 @ 3.00
Grapefruit seedlings... 1.75 @ 2.00

Lemons fancy... 2.25
Lemons choice... 1.50 @ 1.75

Fresh Fruits.

Bellefleurs... 1.90 @ 2.00
Baldwins... 1.25 @ 1.50
Pippins 4-tier... 1.50
Gravenstein... 1.50
Alexandria... 1.00 @ 1.50
Cooking... 50 @ 1.00
W W Pearmain... 1.75
Colorado Jonathans... 3.50
Casaba per crate... 2.00 @ 2.50
Figs black per lb... 8 @ 12
Figs white... 11 @ 12
Guavas... 6 @ 8
Grapes Isabelas per box... 1.25
Rose Peru... 1.10
Malaga per lb... 10 @ 12
Muscats... 1.25 @ 1.70
Tokay... 1.50 @ 2.00
Cornichons... 1.25 @ 1.75
Pears... 1.25
Winter Nellis per lb... 6
Peaches per box... 1.50 @ 2.00
Pomegranates per lb... 7
Persimmons... 6 @ 9
Quinces... 1.25
Raspberries... 15 @ 18
Strawberries... 8 @ 12
Watermelons per cwt... 1.50 @ 2.00

Dried Fruits.

Apricots... 17 @ 21
Evap apples fy per lb... 10 1/2
Figs loose... 4 @ 6
Peaches... 12 @ 13
Pears... 12 1/2 @ 13
Nectarines... 13 @ 14
Prunes... 3 1/2 @ 5 1/2
Plums... 11 1/2 @ 13

Beans, Dried

Lima beans declined during the past week. Wholesale quotations on the market now are:

Limas per ctl... 5.25 @ 5.50
Pink No 1... 3.60 @ 3.70
Lady Washington... 3.75 @ 3.95
Small White... 3.75 @ 3.85
Black eyes... 4.50 @ 4.75
Garvanzas... 5.25 @ 5.75
Lentils... 12 @ 12 1/2

Nuts.

Almonds per lb... 18 @ 20
Peanuts Virginia... 8 1/2 @ 9
Peanuts California... 6 @ 7 1/2
Walnuts No. 1 S S... 15 @ 16

Hay.

Barley No 1... 14.00 @ 18.00
Barley No 2... 13.00 @ 14.00
Alfalfa northern per ton... 15.00 @ 17.00
Alfalfa new local... 15.00 @ 17.00
Plain Oat No 1 new... 16.00 @ 18.00
Wheat No 1... 18.00
Wheat No 2... 14.00

Grain.

Wholesale selling price f. o. b., Los Angeles.
Wheat new per ctl... 1.85
Wheat in 100-lb. sacks... 1.90
Barley... 1.50
Corn Eastern sacked... 1.80
White oats... 1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:
Cracked corn... 1.85
Shorts... 1.55
Bran... 1.40
Oil cake meal... 2.50
Feed meal... 1.90
Rolled barley... 1.75

Harvesting of beets around Salinas ended before the first of this month.

The Tulare Register says that the Cöoperative Creamery of Tulare won honors at the recent creamery opera-tors' convention. Its butter scored 94 points.

The Horticultural Commission of Monterey county is making a strong fight against the peach blight, and has instructed that all trees be sprayed by Dec. 15.

Some orchards at Watsonville which were on the flats near the river were destroyed by the excessive moisture in the soil at their roots last winter, by the heavy rains.

Several carloads of oranges from Central California have been forward-ed across the Pacific, and it is thought that this will lead to the opening of larger markets in the Orient.

North Ontario Packing Company is paying for its earlier purchases of dried fruits at Hanford, these pay-ments having been held up by the money stringency earlier in the sea-son.

San Francisco Markets

SAN FRANCISCO, Dec. 1907.

Butter.

Butter is off on quotations this week running two cents lower for extras than last week. Most grades are from weak to steady.

The current prices on dairy products in San Francisco are always from 2 to 3 cents higher than the rates given in the daily official list of the Wholesale Dairy Produce Exchange. The retail dealers in this city invariably pay an additional 2 cents per pound on butter and per dozen of eggs, and occasionally it is 3 cents. On cheese the increase is 1 cent per pound. By making these additions to the Dairy Exchange prices the producer in the country can always determine the actual prices ruling in this city. The quotations as prepared by the San Francisco Wholesale Dairy Exchange yesterday were as follows:

California extras per lb.	32½
California firsts	31
California seconds	25
Eastern extras	24½
Storage Cal ex.	27½

Cheese.

California young American fy	16
California flats fancy	15
Eastern fy.	18½
Oregon fancy	15½

Eggs and Poultry.

Eggs are still on the downward trend, though at present quotations the market is fairly firm. But during the week a 6 or 7 cent decline has taken place in the better grades.

The poultry market is not at all strong. The arrival of six cars of Eastern stock Monday had a depressing effect. Quotations are practically as last week, but hard to get top notch.

Fresh ranch eggs	49
Eggs firsts per doz.	42½
Eggs seconds per doz.	27
Eggs thirds	23
Storage Cal extra	23
Eastern selected	23
Eastern firsts	20

Hens per doz.	4.50@6.00
Hens extra	6.00@7.00
Young roosters	6.00@7.00
Old roosters	4.00@4.50
Fryers per doz.	4.50@5.00
Broilers per doz.	4.00@4.50
Geese per pair	2.00@2.50
Ducks young	4.00@5.50
Turkeys per lb.	16@20
Pigeons	1.00@1.25

Live Stock.

Steers No. 1.	8@8½
No second quality	7@7½
No. 1 cows and heifers	6½@7
Hogs 80 to 200 lbs.	6@6½
Hogs 200 to 300 lbs.	5½@6
Calves per lb.	4½@5
Lambs spring	6@6½
Wethers No 1.	5@5½
Ewes No 1.	4½@5

Potatoes

River whites	85@1.00
Oregon Burbanks	1.00@1.25
Salinas	1.30@1.50
Sweets	1.25@1.40

Vegetables.

Celery per crate	75@1.00
Corn per sack	1.50@1.75
Cucumbers per box	1.00
Chili peppers per box	50@60
Bell peppers per box	50@75
Egg plant per box	50@75
Green peas per lb.	4@6
Squash per box	75@90
Marrowfat squash per sack	60@75
Hubbard squash per sack	60@80
Rhubarb per box	1.00@1.25
Tomatoes California	50@75
String beans	5@7
Wax beans	3@4
Garlic	4@6

Onions.

Onions Br Australian per ctl	2.35
Yellow	1.85@2.00
Red Australians	2.50

Citrus Fruits.

New navels	2.25@3.00
Grapefruit seedless	2.50@3.50
Lemons	1.50@4.50
Limes	2.50@4.50

Fresh Fruits.

Apples Gravenstein	1.25@1.50
Apples small stock	40@75
Figs one layer	50@1.00
Huckleberries	12½
Pears winter Nellis	2.00@2.50
Pears cooking	1.00@1.50
Persimmons	75@1.25
Pomegranates per box	1.00@2.50
Quinces per box	1.00@1.25
Raspberries per chest	10.00@12.00
Strawberries per chest	5.00@10.00

Dried Fruits.

Apples (evap.)	10@10½
Apricots per lb new	18@21
Figs white	3½@5
Nectarines	12½@15

Plums pitted	12@15
Prunes 4 sizes	4@5½
Peaches	10@13
Pears	7@13
Prunes 4 size bag basis	4@5

Beans, Dried.

Limas	5.15@5.20
Pink	3.20@3.25
Small white	3.45@3.50
Large white	3.00@3.10
Lady Washington	3.40@3.50
Black eyes	4.00@4.25
Red kidneys	3.40@3.50
Bayo	3.15@3.25

Hops.

Hops have dropped a couple of cents during the week with market very weak.

Hops new future delivery per lb.	4@8
Hops old fancy	2@3

Nuts.

Almonds new	16½@17½
Peanuts California	6½@7½
Walnuts	14@17

Honey

Clear white comb	16@17
Amber	12@15
Extracted	7½
Beeswax No 1 per lb	26@28

Hay.

Alfalfa local	11.50@13.50
Tame oat choice	16.00@18.00
Wild oat	12.00@14.00
Wheat choice	18.00@20.00

Grain.

Wheat No 1.	1.67½@1.72½
Barley No 1	1.57½@1.60
Corn small yellow	1.50@1.55
Corn large yellow	1.50@1.55
Oats white	1.60@1.70
Oats red	1.75@1.90

Feed Stuff.

Bran per ton	28.00@30.00
Straw per bale	75@85
Feed cornmeal per ton	36.00@37.50
Cracked corn per ton	37.00@38.00
Roller barley per ton	35.00@36.00
Oil cake meal per ton	38.50@40.00
Cocoanut cake, per ton	25.00@26.00
Middlings	30.00@32.50

Citrus Market

LOS ANGELES, Dec. 11, 1907.

The citrus market shows a much better condition than last week and as the holidays approach there will doubtless be still better sales.

Shipments.

Shipments to date, 1157 cars of which 435 were lemons. Same date last year 489, of which 244 were lemons.

SHOW AWARDS.

Continued from Page 575

BARBS—Red cock and hen; yellow cock, T. Dockweiler, 1.
FANTAILS—Old white ck and hens, Will Schock, 1, 2, 3; 1907 cock or hen, Will Schock, 1, 2, 3; Black old ck and hen, Will Schock, 1, 2, 3; 1907 ck or hen, Will Schock, 1.

MALTESE HENS—White old ck, F. G. McCoy, 1; old hen, E. G. Waltz, 1; F. G. McCoy, 2; 1907 ck, E. G. Waltz, 1; E. A. Bradshaw, 2; 1907 hen, E. A. Bradshaw, 1; blue ck and hen, E. A. Bradshaw, 1; blue check hen, L. Schumaker, 1.

WORKING HOMERS—Black ck, J. L. Horner, 1; dun hen, J. L. Horner, 1; silver ck, E. G. Waltz, 1; blue barred homer old cocks, E. A. Bradshaw, 1; E. G. Waltz, 2, 3; old hens, E. A. Bradshaw, 1; F. T. Wargenr, 2, 3; 1907 hen, E. G. Waltz, 1.

DRAGOONS—White old ck, E. A. Bradshaw, 1; W. J. Mannix, 2; hen W. J. Mannix, 1; black ck, old, John Brenton, 1; 1907 ck, E. A. Bradshaw, 1; Girzel cock, Brenton, 1; blue ck, Brenton, 1; red cocks, E. A. Bradshaw, 1; Brenton, 2; E. G. Waltz, 3; red hens, E. G. Waltz, 1; 1907 ck and hen, E. G. Waltz, 1; splashed ck, E. A. Bradshaw, 1; yellow old ck, E. G. Waltz, 1; old hens, E. G. Waltz, 1, 2; 1907 ck and hen, E. G. Waltz, 1.

PIGMY POUTERS—Old black ck, J. L. Horner, 1; old hens, W. E. Foster, 1; J. L. Horner, 2; 1907 ck, W. E. Foster, 1; blue ck, and hen, J. L. Horner, 1.

PARLOR TUMBLERS—Yellow cks rollers, W. E. Foster, 1; yellow roller hens, W. E. Foster, 1; yellow splash roller hen and ck, W. E. Foster, 1; red cks, W. E. Foster, 1, 2, 3; red hens, W. E. Foster, 1, 2, 3; black cks and hens, W. E. Foster, 1, 2, 3.

RUSSIAN TRUMPETERS—Black Splash ck and hen, 1; Dun Splash ck and hen, 1; Red Splash ck and hen, 1; W. E. Foster, Fillmore.
CUP WINNERS—Fan tail cup to Will Schock for best fan tail in the show, won on white fan tail ck; Dragon cup to E. G. Waltz for best Dragon in show, won by yellow cock. Homer cup to E. A. Bradshaw for best Homer in the show, won on blue barred cock. Parlor tumbler cup to Wilbert E. Foster for best parlor tumbler, on yellow hen. English runt cup to F. G. McCoy for best English runt in show, on silver hen. Maltese hen pigeon cup to E. G. Waltz for best Maltese hen pigeon, on white hen. Silver cup to W. E. Foster for best display of fancy pigeons.

Special Premiums.

Los Angeles Chamber of Commerce cup for best display of California bred birds in American or English classes, not less than 25 specimens competing, won by Ross & Tate of Altadena, on Black and Buff Orpingtons.

Los Angeles Produce Exchange cup, for best display of table fowl, on hoof, any breed or variety, Mrs. C. D. Hubbard, San Fernando, on White Wyandottes.

Association Trophy, silver coffee service and tray, for best exhibit of ten pullets, won by Ross & Tate of Altadena, with ten Black Orpington pullets.

Los Angeles Produce Exchange cup, for best display of Black Minorcas, won by Harry E. Rose, of San Gabriel.

The Los Angeles Times cup, best display of White Wyandottes, Mrs. C. D. Hubbard, San Fernando.

Newton Moore cup, for best display of White Plymouth Rocks, won by Arthur J. Pedro.

Germain Seed Company cup, best pen of White Plymouth Rocks, won by Arthur W. Little, Monrovia.

Henry Albers' loving cup, for best pen of White Wyandottes, won by Mrs. C. D. Hubbard, San Fernando.

Arthur Letts' cup, for best exhibit of Asiatics, won by C. F. Jones, of Hollywood, with Buff Cochins.

R. A. Rowan cup, for best display of Polish, won by R. A. Rowan.

Live Stock Tribune cup, for best cock, cockerel, hen and pullet in American class, won by Arthur J. Little, Monrovia, on White Plymouth Rocks.

California Cultivator cup, for best display of Rhode Islands Reds, won by Lake Avenue Poultry Yards, Pasadena.

John D. Mercer cup, for best Cornish male fowl, won by the T. H. Broadhead Company.

Riverside Fanciers' cup, for best exhibit of California bred birds, Meritanean class, won by Harry E. Rose, of San Gabriel, with Black Minorcas.

Superintendent's cup, for best display any one breed, Mrs. C. D. Hubbard, San Fernando, on White Wyandottes.

The American Rhode Island Club ribbons were awarded as follows: A special ribbon on best shaped female, and one on best colored female, Lake Avenue Poultry Yards; two special ribbons on one cockerel, one for best shape and the other for best color, Goodacre Bros.

Barred Rock Club of Southern California's cup for best display, was won by C. E. Smith, and as this is the second time he has won it, it will now remain in his possession. Chas. Winsel, 150-egg California Incubator for best display of turkeys, Mrs. C. D. Hubbard, San Fernando.

Thomas Chapman cup for best display of Asiatics, C. J. Jones, Hollywood.

C. C. Tatum cup for best cock, cockerel, hen and pullet in White Rock class, Arthur J. Little, Monrovia.

Harper & Reynolds Company's handsome carved set for best display White Wyandottes, Mrs. C. D. Hubbard, San Fernando.

W. W. Browning loving cup offered to the exhibitor making the largest exhibit of the most number of varieties, R. A. Rowan, Los Angeles.

Petaluma Incubator for best third prize, Mediterranean class, Harry E. Rose, Alhambra.

Coulson Poultry & Stock Food Company's challenge cup for the best display of any one breed fed on Coulson's Egg Food, J. L. Mercer, Hollywood.

Minneapolis Cornish Indian Breeders' cup for best female Cornish fowl, F. T. Broadhead Co., Los Angeles.

Pacific Cornish Fowl Club cup for best exhibition pen of Cornish fowls, F. T. Broadhead Co., Los Angeles.

The Association Club cups offered on all large breeds and also on Bantams, where classes are filled, had not been awarded at the time of our going to press.

In the hen and chick contest, open to ladies only, the prizes were awarded as follows: Best hen with ten chicks, in a large breed, Mrs. C. D. Hubbard, San Fernando, cut glass vase; best hen with five chicks, Bantam class, Mrs. C. D. Hubbard, San Fernando; cut glass salt and pepper shakers.

Handsome club ribbons were offered by the following clubs: American Orpington Club, National Single Comb Buff Orpington Club, American Buff Leghorn Club, Blue Andalusian Club, American Buff Plymouth Rock Club, American White Plymouth Rock Club, National White Wyandotte Club, Rhode Island Red Club, Cornish Indian Club of America. At the time of our going to press, these special prizes had not been placed and we are, therefore, unable to give the list of winners. Association Club medal honors on both large breeds and bantams had not been awarded.

PIGEON BREEDING FOR PROFIT.

Continued from Page 571.

the young as they grow, keeping the young even in size so one won't push the other back and starve it. This may be done by exchanging birds from one nest to another letting other birds feed them. When the breeding season is over, Oct. 1st, separate the sexes, cocks in one pen, hens in another. Then keep them in good shape. Show them at some one or more exhibitions. Win your share of prizes, advertise your stock, sell at reasonable prices, giving a fair deal. When you get a customer and you are sure to win. It cannot all be done in a day, but like any other business good results follow good business tact. Try it.

The writer of this is at all times ready to answer any questions that may be sent into this paper, or give you any information through its columns that you may require to help you on to success.

Anderson is becoming more and more puffed up with the claim that it is one of the greatest prune sections in the State. Shipments during the past season have been very satisfactory as to returns, and the quality of the fruit is exceptionally fine.

Up to the end of November Oroville shipped 191 cars of oranges.

EGG-CITY INCUBATOR.

The Petaluma Incubator Company of Petaluma, Cal., is placing on the market a line of "Hot-water" Incubators which will be known as the "Egg-City" Incubators.

The Company has been making these machines in a local way for several years and some of the largest poultry ranches of Petaluma, Sebastopol, Stony Point and other places have been equipped with these machines, which in their improved form have been called the "Egg-City" and will be manufactured as regular product henceforth.

The poultry plant of Briemle & Christiansen of Petaluma has been using 14 of the largest size with exceptional good results since 1905, hatching 90 per cent. and 95 per cent.

The "Egg-City" Incubators are made to meet the wants of those who for any reason may prefer "Hot-water" machines but who prefer to continue doing business with the Petaluma Incubator Company, and already the Company has booked orders for all they will be able to turn out for 1907-08.

They are strictly high-grade Incubators of the "Hot-water" system. Nothing is used in their construction but first-class material and the reputation of the Company for the past thirty years in making "Petaluma" Incubators and brooders, the "Standard of the World," is a sufficient guarantee that the "Egg-City" Incubators are the best in their class.

At a recent meeting of the Woodland Creamery Association the following were elected directors for the coming year: H. E. Coil, E. S. Farnham, Daniel Farnham, George Hopkin, J. L. Harlan, S. Lawson and A. W. Morris.

The Tahoe National Forest Reserve has been given many improvements during the last three months. The government has expended a large sum of money in building trails, bridges, and cabins for the rangers.

The walnut crop of Southern California will bring over \$2,000,000 this year. The total output will be over 12,000,000 pounds. This is about 2,000,000 short of last year.

In two days of the last week in November the celery market of orange county made a decided advance. Orders for carload lots are now coming faster than cutting can be done.

The Newbert Protection District, which was formed to reclaim lands from the encroachment of the Santa Ana River, is in a legal tangle which is delaying the work.

Shipments of oranges from the town of Orange and Orange county last year aggregated 718 cars, and 108 cars of lemons. Orange shipped five cars of peanuts last year.

Santa Ana Register says that many Orange county dairies have been "inspected" out of business by Los Angeles Health Board inspectors.

The cabbage crop at Olive will be very large the coming year. Plants which have been reset during the last two weeks are looking well.

The sugar-beet growers at Oxnard are signing contracts for next year's delivery. The acreage will be much larger than any heretofore.

The effects of the early rains have disappeared, and the hills back of Santa Ana were visited by a severe brush fire last week.

Pioneer

Rubber Sanded ROOFING

Always a permanent protection against rain and sun. Spark and cinder proof—does not curl, warp or crack.

Easiest to lay and when once laid is down to stay.

That wear-proof surface of hard flint sand—adds years and years of wear—eliminates the repair bill and requires no painting at any time.

Best for every roof.

Samples, prices and booklet sent free.

Let us put you in touch with
our Agent in your locality.

ROLL PAPER CO.
LOS ANGELES

The One-Man Road Machine

Easy to guide; strong, compact and easy adaptable to every condition demanded. It needs but one man and two horses to operate it. Notice the "no skid" rudders on the wheels. They are raised in the picture; when lowered they guide the machine straight ahead. The moldboard is six feet long. Has adjustable shoes shown at ends of moldboard to gauge depth to which moldboard should cut. It's a very desirable machine for road-building in city or village. It makes good roads and keeps them so. Although made of steel and malleable iron, still it weighs only 600 pounds. The

20th Century Grader

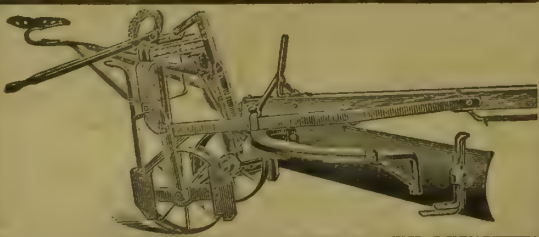
saves time of three men and two extra horses. It is easy on the horses. Has blade in front of wheels. Moldboard reversible. Machine turns in 6 ft. circle. Built for road-grading, Ditching, Land Leveling, Foundation-digging,

For Irrigation, Canal Building Etc.

The price is lower than most such machines. We send it on free trial. Write us for our handsome booklet, "Delightful Roads." It's free and tells you all about the 20th Century.

The White City Grader Company
Box 26, White City
Kansas

Jno. Schilling, Jr., Sales Agent,
Davies Warehouse Co. Los Angeles



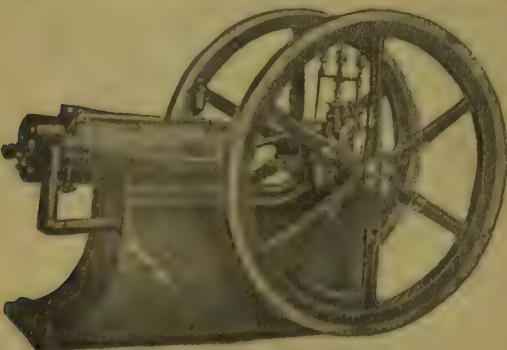
The Celebrated DeLoach Mill

The
World's
Standard
for 20
Years

Saw Your Own Lumber
For lumber is lumber nowadays,
and you can do it better than
the other fellow, with
our help.

**We Set the Pace
—Others do the
Best They
Can**

A 15-year-old
boy can operate
successfully.
Two hands cut
5,000 feet per day.
15,000 mills in use
the world over.
Variable Feed, Friction
Set Works, Automatic Steel Tri-
plex Dogs and Diamond Track produce
results impossible with other mills. Send for
catalog of Saw Mills up to 20 H. P., Steam Engines
and Boilers, Gasoline Engines, Portable Corn and Feed
Mills, Planers, Shingle Mills, Wood Saws and Water
Wheels. Prompt shipment and we pay the freight.
DeLOACH MILL MFG. CO., Box 335, BRIDGEPORT, ALA.



Don't Experiment

With untried engines. Buy
an engine with a **guarantee**
of the **lowest cost for fuel**
—the

White & Middleton

Absolutely reliable, tested and
proved.

Wm. Gregory

602 No. Main St., Los Angeles, Cal.

Samson Gasoline and Distillate Engines



Are Strong and Durable Fully Guaranteed in every Particular. We make complete Irrigation Outfits.

Samson Centrifugal Pumps
Are the Best.

Enlargement of our factory makes it possible for us to make prompt delivery.

Send for our new catalogue and estimates.

Samson Iron Works

Office and Factory:
1100 to 1198 Aurora St.
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Branch: 920 J St., Fresno

553 S. Los Angeles St. Los Angeles

The Callahan Oil Engines



The Highest Grade Made. Won First Prizes at Sacramento and Porterville Fairs. Large Stock always on hand. Send for Pump and Engine Catalogues.

G. W. Price Pump Co.

21-31 Jessie St., San Francisco

BRANCHES — Sacramento, Visalia, Porterville

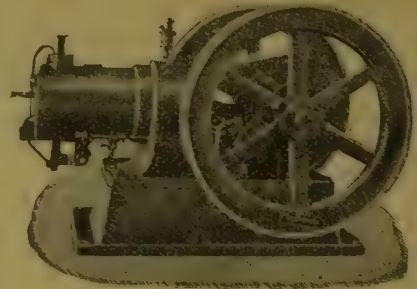
Centrifugal Pumps

For high or low heads
Direct Connected or Belt Driven
Highest obtainable efficiency

Krogh Man'f'g. Co.
127 to 133 Beale Street
SAN FRANCISCO CAL.

Send for New Catalogue No. 50 just issued.

Olds Gasoline Distillate Engines



For all purposes, Stationary, Portable and Spraying. All sizes from 2 to 100 H. P. Simple, durable, warranted, are giving fine satisfaction to purchasers on the Coast. Prices and circulars mailed on application to

The Compressed Air Machinery Company

Dealers in All Kinds of Machinery

34 to 40 Jessie St.,
San Francisco, Cal.

SEND FOR BULLETIN NO. 15

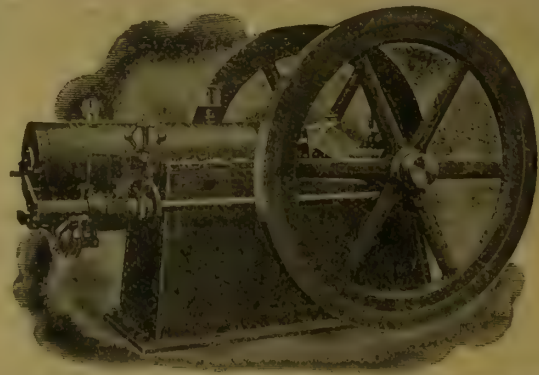
Columbus Engines

Have Stood the Test
14 Years

Fully guaranteed. Most simple and economical engine on the market today. You can't go wrong on a Columbus

Greenleaf-Compton Company

121 South Los Angeles St.,
Los Angeles, Cal.



500,000 FEET OF WATER PIPE

All sizes, Galvanized and Black, slightly damaged.
Special Price While It Lasts. Phone or write.

ADAMS PIPE CO., 603 Grant Bldg., Los Angeles, Cal. Phones: Main 1917, Home 1817

National Wood Pipe Company

Woodward Pat. Machine Banded Pipe, Wheeler Pat. Continuous Stave Pipe, Bored Wood Water Pipe

Made from California Redwood **WOOD PIPE** Or Selected Puget Sound Yellow Pine

Puget Sound Office: Olympia, Washington

Los Angeles Office: Cor. First and Spring Sts.

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Salt Lake City, Utah: Dooly Block

A Booklet, "The Whole Story About Wood Pipe," mailed free upon request.

When writing advertisers, mention Cultivator.

20.5
34

UNIVERSITY OF ILLINOIS

California Cultivator

Los Angeles

December 19, 1907

San Francisco

The Profits of the Small Farm



THERE is a demand in California for the products of a diversified farm. Thousands of carloads of poultry products, dairy products, livestock, and meats are shipped into California every year. The diversified farm brings in quick, frequent cash returns for the labor expended. The farmer gets cash for his milk from the creamery every thirty days; he gets cash for his poultry products and for his fruits and vegetables. His hogs fatten on skim milk and sell for cash. If the intensive diversified farm be run intelligently, there will be a monthly cash income that will be as regular as a salary, and much more satisfactory than any salary earned by a man who works at desk or counter in the city, for it will carry with it the feeling of ownership in the business which pays the salary, and the further satisfaction that the man who draws the money is his own employer.

There is a wonderful future for intensive farming in California. With the richest soil in the world, and the water which can be impounded to successfully irrigate the soil, there is no limit to its productivity. The day will come when the greater interior valley, the combined Sacramento and San Joaquin valleys, will be given over to intensive farming, and that vast area fifty miles wide by five hundred miles long will be the most productive place on the globe. In the southern part of the State the opportunities for intensive and diversified farming on small ranches are increasing every year with the development, while all along the coast, clear up to the country which was formerly given over to the lumber in-

dustry, small farms are now taking the lead. Coincident with this increase of the number of small farms comes the increased demand for the products raised on them, and with all the increase of production there has been no diminution of the demand; rather has there been an increase in demand and a consequent increase in prices paid for the farm products. With every increase in the population of the farming districts of the State, there is an increase of the city population which calls for the increased supply of farm products.

The expenses of a small diversified farm are small, and one is always certain of having the table necessities. The farmer must have average intelligence and the faculty of application. California is not a shiftless man's country, and to succeed on a small farm or in any industry in this State a man must apply himself to the business at hand. Many a man who has not been able to pay down more than one-fourth of the price of his small farm has achieved entire success with diversified farming, and has paid for the place within two or three years from the proceeds. Many instances might be cited of such success in California. In fact there is scarcely a locality in the State where they may not be found. Hundreds of men in California today are well-to-do who came here with just enough to pay part of the purchase price of their places and get the improvements and stock. These men devoted themselves to diversified intensive farming and are now considered among the substantial citizens of the State.—For California.

Use
Coulson's
Special Dry
Chick Food
 and Insure Success



Two-Weeks-Old Chicks fed on
 Coulson's Special Dry Chick Food

For Sale By

Coulson Poultry and Stock Food Company
Petaluma, Cal.

Send for our Free Book, "Poultry Feeding for Profit"

Germain Seed Co., Los Angeles
 Distributing Agents for Southern California

A Poultry Essay Contest

One Hundred Premiums Given Away for the Best Essays on Poultry Culture

Every Contestant Receives a Special Prize Worth \$1.50

There are three prizes for the best essays on artificial incubation; viz., 1st prize one B size incubator; 2nd prize, one C size incubator; 3d prize, one A size brooder all o. b. at our factory. Absolutely free.

To each of the two persons contributing the best essay on preparing fowls for the show room, we will give free f. o. b., one of our Automatic Designating Nests.

We will give ten prizes, for best essay on the management and profits of each of the following breeds of fowls; viz., on Wyandotte ten certificates good for ten dollars each at our office on the purchase of one of our B size incubators.

On Plymouth Rocks, ten certificates, good for eight dollars each on the purchase of one of our C size incubators.

On R. I. Reds, ten certificates good for six dollars each on the purchase of one of our A size brooders.

On Leghorns, ten certificates good for six dollars each on the purchase of one of our A size brooders.

On Orpingtons, ten certificates good for four dollars each on the purchase of one of our B size brooders.

On Minorcas, ten certificates, good for four dollars each on the purchase of one of our B size brooders.

On Brahmas, ten certificates good for four dollars each on the purchase of one of our B size brooders.

On turkeys, ten certificates good for one dollar each on the purchase of one of our Automatic Nests.

On ducks, ten certificates good for one dollar each on the purchase of one of our Automatic Nests.

On fattening fowls for the market, five certificates good for four dollars each on the purchase of one of our B size brooders.

These essays must be based on the writer's experience, must not contain more than 500 words and must be written plain with pen and ink.

The essay on artificial incubation must give per cent of eggs hatched, the time of the year the hatch or hatches were made, the size and name of the incubator used, the breed of chicks hatched and the cost of making the hatch.

The conditions of this contest are: That each contestant must inclose with their essay, an order for our Success poultry house floor plans, elevations and full specifications. And our modern poultry plant plans showing the buildings, fruit trees, shrubbery, the comparative cost and profits obtained, together with the small sum of 75c money order.

Our regular prices for these two sets of diagrams and specifications together are \$1.50, or if furnished separately they are \$1.00 each. But during this contest we will send to each contestant the two full sets complete for the nominal sum of 75 cents.

These sets consists of three diagrams, together with full specification; viz., the poultry plant plan 25x17½ inches drawn on a scale of 1-16 of an inch to the foot. The poultry house floor plan and the poultry house front elevation drawn on a scale of 1-4 inch to the foot. A reliable architect would not make these diagrams and specifications for less than ten dollars.

These plans and specifications will be forwarded to each contestant the same day their essay and order is received, and the essay will be filed for examination, which will be done by the awarding committee the next day after this contest closes.

Remember that it does not cost a cash outlay of one cent to make a hatch and brood chicks with our machines; they are as their name implies, a "Success."

These incubators have hatched 96 per cent of the fertile eggs, which is an excellent record for any artificial device for hatching.

Employees or any one connected with our company will not be permitted to compete in this contest.

The certificates of credit awarded to contestant, may be transferred to another party, provided the certificate shall be duly counter-signed by the party to whom it was awarded, and that we are duly notified of the transfer, giving the name and post office address of the party to whom the transfer is made.

The prices of our machines are a little higher than some of the lamp machines but when the expense of oil, the occasional loss and constant danger of fire in using the lamp machines are considered, our (no lamp) machines are by far the cheapest.

The prices of our incubators, brooders and Automatic Nests quoted in this contest, are exactly our regular established prices. Viz.:

Size A, 300-egg incubator complete	\$38.00
" B, 220-egg "	\$32.00
" C, 132-egg "	\$28.00
Size A, 200-chick brooder complete	\$15.00
" B, 100-chick "	\$10.00
The Success Automatic Nests (single)	\$ 3.00
The same in sections of two nests	\$ 5.00
" " " " four nests	\$ 8.00
" " " " six nests	\$10.00

Our object in giving these liberal prizes is to advertise and introduce to the poultrymen and farmers, the "Success" (no lamp) Incubators, Brooders and Automatic Nests, together with the diagram and specifications of our poultry plant and buildings, all of which are acknowledged to be most modern and profitable arrangements for successful poultry farming yet devised.

When writing your essay article, don't be too particular about style or phrases. What we want is a plain statement of facts just as you talk to your neighbors.

Any boy or girl that has helped raise poultry, is just as likely to have a valuable idea on some feature of the work as any one, and any feature whether new or old that will profit to the business will be a strong factor in the essay. This contest closes promptly at 8 p. m. Jan. 20, 1908.

All essays mailed before 8 p. m. Jan. 20th, 1908, will be counted.

Save this Ad; it will not appear again. Name this paper when you write.

References: Guy G. Crow, P. M.; C. M. Welford, Mdse.; McClintock & Simpson Mdse.; John W. Lauterbach, Hotel; White Salmon Valley Bank.

The Success (no lamp) Incubator Co., White Salmon, Wash.

J. W. O'Keefe, Pres.
 A. S. Gregg, Secy.
 R. Field, Tres.



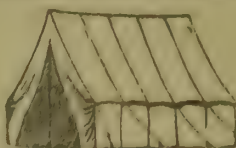
On Sale Dec. 26-27-28

from all Stations San Bernardino to
 Los Angeles. Rate \$60.00, round-
 trip to Denver, Colorado Springs and
 Pueblo. **Return in 30 Days.**

Denver \$60 Excursion

Rates from Stations South of Los Angeles slightly
 higher. See Salt Lake Route Agents for full particulars,
 or apply to T. F. Bowes, Dist. Pass. Agent, 601 South
 Spring St., Los Angeles, Cal.

Through Sleepers
VIA
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TENTS

Fumigating and Lemon Curing Tents our Specialties

Irrigating Hose, all sizes. Prices and Samples quoted upon application. Write your wants
 300 slightly used tents, all sizes, for sale cheap.

Mellus Bros. & Co.

Phones Home, F 4871; S. S. Main 3500
 250 East Fifth St., Los Angeles, Cal.

The Finest Jewelry Store In America

Have you asked for our Catalogue Number 10? If not, you should do so at once. It will be mailed free. New, large illustrated book giving description and prices on Diamonds, Diamond Jewelry, Gold and Silver Jewelry, Pearl Jewelry, Sterling Silver Table Ware and Toilet Articles, Watches and Watch Chains, Fountain Pens and Sterling Silver Topped Pencils, and many other useful and beautiful articles for every home.

YOU CAN BUY FROM THE CATALOGUE AS WELL AS AT THE STORE. CAREFUL ATTENTION GIVEN ALL ORDERS.

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Write for Catalogue Number 10 today.

Brock & Feagans
Jewelers

437-439-441 South Broadway Los Angeles, Cal.

California Cultivator

Vol. XXIX—No. 25 Los Angeles, California, Thursday, December 19, 1907 Subscription \$1 a Year

An Effort to Reform the Revenue Laws

The Injustice Which Farmers Have Been Subjected to for Generations Should Be Corrected. Any Move to That End Must Be Originated by the Farmer Himself

MR. JOHN TUOHY of Tulare, in an address before the State Farmers' Institute at Davisville, discussed the subject of Reform of the Revenue Laws of this State of California, so intelligently and so conclusively that we herewith present a part of his address, which is in support of the position taken by the Cultivator on this subject, and elaborated on to considerable length editorially in former issues. The subject is important to the farmers of this State and no excuse is necessary for reference to it, either editorially or from quotations made by others who have given the subject intelligent consideration. In the address above referred to Mr. Tuohy says:

"When the present system of taxation for a governmental revenue was adopted, it was agreed that the government should get its revenue by a direct tax on property, as the law defines it. It was assumed that all property, real and personal, having the same marketable value, would contribute the same amount in taxes. However plausible this theory seemed, and it was at that time, our present experience proves it falacious and it always will be, for one class of property, realty, is always visible and incapable of concealment or denial, and the other class of property is not always visible; much of it can be concealed or defied, its ascertainment is always very incomplete. It requires an obnoxious, inquisitorial investigation to get what is found. When found its valuation is much more difficult of determination than is the true market value of realty. It is very manifest, then, that there is an inherent defect in the theory that all property will be revealed and bear its just proportion of taxation. The revenue officers know this full well; nevertheless the law requires them to collect a revenue on these lines, the result being that realty and improvements hereon, which is a part thereof, pays more than our times the tax paid by personality, although in probate courts in the settlement of estates of deceased persons, and in the settlement of insurance losses, insurance is never taken for more than three-fourths of the value of the property in which the risk is written, showing that personality has more than double the market value of realty. This preponderance of valuation, of personality to realty, is incontrovertable, where there is a large diversity of industrial enterprise. It will always exist. Under our system of taxation, no system of obnoxious inquisitorial investigation, and inquisitorial investigation is always obnoxious, nor any system of complex wearing, also obnoxious, will correct it; such things only help to make undesirable citizens."

Two-Thirds in Realty.

"Two-thirds of the farmers' property being in realty, which is at all times in plain sight, he would, if all his personality were exempt (I am not advocating that,) pay more than an equitable amount of taxes. But the formula for the ascertainment of his personal property is more scrutinizing than is the formula for the ascertainment of the property of any other class of taxpayers. This requires a detailed, sworn statement of the number of his fruit boxes, the amount of cheese, butter and honey on hand, fruit graders, fruit dippers, farming utensils, nursery stock, blacksmith tools, wagons, buggies,

carts and other vehicles, hay presses, harness, robes, saddles, etc., stallions, horses, thoroughbred, American, half-breed; colts, one, two and three years old; mules, one, two, three and four years old; jacks, jennies, jack colts, cows, American, thoroughbred, beef cattle, stock cattle, calves, goats, fine and common, sheep, imported, fine, common, lambs, pounds, poultry dozen, hogs pounds, bee hives, wheat tons, rye tons, barley tons, corn tons, hay tons, fruit trays, dry fruit, peaches pounds, prunes pounds, apricots pounds, apples pounds. And all this in excess of the detailed statement required of other property owners. But we farmers have borne it so long, without complaint, the system, unjust and burdensome as it is, is persisted in. The system calls to my mind Lord Byron's admonition, "Hereditary bondsmen know you not he who would be free, himself must strike the blow!" And so it is with us farmers, we must strike

and long and careful study, by the Commission of Revenue and Taxation. It has been presented to the Legislature of the State, has been adopted by it, has been embodied into an amendment to the Constitution, and that amendment is submitted to you, the voters of California, for your approval at the next State election."

"The commission finds that our California system of taxation for State, county and municipality by the same assessment is very defective and has been abandoned by nearly every State in the Union. It recommends that the State shall have a separate revenue system, a system which will draw a revenue from the gross earnings of railroads, and other incorporations, from banks and inheritance taxes, exempting them from all county and municipal taxes, and leaving to the counties and municipalities the taxation of real and personal property for their revenue. The report shows that this is the system of revenue in



quick and hard, for a better, a more equitable system of taxation for State revenue, so far as it relates to us."

"Persons engaged in agriculture pay on the average \$50 per capita each year in taxes out of an average income of about \$500. Persons engaged in manufactures pay on the average \$17.50 per capita each year in taxes out of an average income of \$870.00. The figures on which the foregoing estimates are based were obtained from the United States census report of 1900."

Injustice of the Present System.

"I deem it unnecessary to dwell further on the inadequacy and injustice of the present system for a revenue for the State and the counties. It is condemned in every State. In many States a more equitable and a better system has been devised and is now in practice. It is time that we in California, which in many respects is one of the most progressive States in our Union, formulate and adopt a better system, a system which will be equally just and fair to the members of every industry now here, or which may hereafter come a system of taxation adequate and becoming to the high standard of civilization to which we have attained and which will be a standard of taxation for State, county and municipal revenue which other progressive States can adopt."

"Such a progressive revenue system has been devised, after much painstaking investigation

New York, Pennsylvania, Massachusetts, Connecticut and Michigan and other States. That where it is tried it eliminated friction, is giving general satisfaction, produces an adequate revenue to the State, and by statistics given shows the extent of gain to every county in this State, except three, which under the proposed constitutional amendment will be compensated by the State for any loss, by the change, to them."

"The commission has carefully investigated and computed what will be a fair tax contribution for a State revenue from each incorporation, based on gross earnings, premiums, or stock value, for on gross earnings only can safe estimates be made. The corporations which are required to pay, for the most part, the State revenue, will, also, be benefited, as it relieves them of all county and municipal taxation, or investigation, and makes their contribution easily ascertained."

"It may be that some will doubt, and honestly doubt, the equity of the proposed tax on the gross earnings and incomes of railroads and other public service corporations, but it should not be overlooked that the amounts were arrived at after very careful and painstaking investigation, and even then the Legislature in the proposed amendments, in several cases, cut down the amount. We must reconcile our own views to the views of those selected to investigate and determine these things for us. We will do so."



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With the Citrus Growers

STORY OF THE ORANGE.

FROM a beautiful little booklet entitled "The Story of the Orange," issued by the Salt Lake Railroad, we quote of the story:

Far away in the northern part of India the orange had its origin. How long ago no one can discover. Today India in her Cintra orange undoubtedly has some of the finest fruit to be found in the world. Well-grown specimens have but two or three seeds, the average market specimen weighing about seven ounces. There are five other native varieties grown, while the Malta and St. Michael have been introduced. Budded orange trees in India decay rapidly after the fifteenth year, and seedlings are so slow to bear that they are practically useless for fruit growing.

From India the orange found its way into Western Asia, and thence to Eu-

with fresh fruits. The best varieties then obtainable were planted, but no effort was made to improve them, and the products of those days were in no way comparable with those of the present time.

Vancouver, in his memoir of the Pacific Coast in 1792 relates that oranges were found growing at San Buena Ventura. There is no elaborate mention as to the conditions, merely the statement of this fact. The most extensive orange orchard of the early plantings was at San Gabriel mission in Los Angeles county, California. This was supposed to have been set in 1804 "by one Father Thomas Sanchez." The records of this mission for that period do not show the extent of this orchard, but according to inventories taken of the mission properties at the time of the secularization of the missions in 1834, San Gabriel



Courtesy Salt Lake Route

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Los Angeles, California

rope and into Arabia and Syria, and in the eleventh century to Italy, Sicily and Spain. The introduction into America was made by the Spaniards early in the sixteenth century, and at the present day there are districts in Florida and Mexico which literally are overrun with oranges. Of the introduction into California we find the following accounts:

In 1767 the Jesuits were expelled from the missions in Lower California. Their possessions were turned over to the Franciscans, and Junipero Serra was selected president of the missions. A dispute arose between the Franciscans and Dominicans over the division of the property. The latter claimed an interest in the mission work! in consequence of this, a division was made, and in 1769 the Franciscans started northward, entering and occupying what is now the State of California. The avowed object of their establishment was the conversion of the savage tribes to Christianity; but while devoting themselves to the harvest of souls, the Fathers did not neglect the material interests of themselves or their establishments. The surrounding country was subdued speedily, and the natives were changed from hunters to herdsmen, and the flocks of the missions became numerous and of great value.

This State, together with the whole Pacific Coast, was known then as the Great American Desert. Of the twenty-one missions established, all but three had gardens and orchards. Most of the orchards were small, some consisting of but a few trees. These orchards were planted without regard to their commercial value, the only object in planting them being to furnish the fathers and their servants

mission reported 233 fruit trees upon which no valuation was placed. As this includes all citrus and deciduous fruits, we have no way of knowing whether it was larger than the present area or not.

Outside of the mission plantings a small grove intended for home use was planted by Lois Vignes at Los Angeles in 1834. Another orchard was planted by Manuel Requena in the same year. Of the other plantings which followed, the most important was that of the late William Wolfskill, which consisted of two acres set in 1841, and was probably the first orchard in the State planted with the view to raising oranges for a profit. Other plantings followed, and in 1853 considerable acreage was planted. In 1857 a few trees were planted at old San Bernardino by L. Van Loven from seedlings that were grown by him. He also planted in the same year about forty-five trees that were obtained from Los Angeles. About 200 trees were planted at Crafton in 1865.

The first seeds were planted at Riverside, fifty-seven miles east of Los Angeles, on the Salt Lake Route, in 1870; the first trees planted in the orchard grown from these seeds in 1872-3. The claim is made that at this time there were two old orange trees growing in El Cajon Valley, but there seems to be no data giving any information regarding them. In the northern sections a tree was grown from seed planted in Sacramento about 1855, and transplanted in 1859 to Butte county, where it is still growing.

Don Juan Bandino, who had so much to do with the early history of Riverside, was at one time captain of the San Gabriel mission, and a life

report written in March, 1840, he speaks of the orange grove as being the only one in Southern California, and that he had given it special care, and had restocked it with more than 100 new trees. In 1862, the reports state, there were about 25,000 citrus trees in the entire State, of which the larger number were located near Los Angeles. But after that date the planting increased, and especially after 1873, when an impetus was given to the industry by reason of the building of the Southern Pacific railroad, which facilitated the marketing of the fruit grown.

The first fruit was shipped to San Francisco and to the east over the Southern Pacific line, and brought good returns. The completion of the Santa Fe lines marked the beginning of a boom in orange planting, and the story of returns received in the early days by the growers reads like a tale of Golconda. Some of the returns from orchards of that date were al-

Mr. Chapman, at San Gabriel, was, so far as is known, the first to bring the Valencia Late orange (Tardiff) to Southern California. The trees were brought into Riverside by Alonzo D. Haight, and were planted on his ranch on Palm avenue, in Riverside. The firm of Frost & Burgess introduced into California the Ruby Blood orange. The Mandarin was first introduced into California by Dr. S. R. Magee, and came through the Hon. J. R. Bingham, minister to China, 1882. The buds put out by Mr. Magee did not take well, and as some buds were given to J. E. Cutter gave good results, they were brought out by Mr. Cutter about 1885, and were sent from California to Florida, where they are now grown quite extensively. The Australian Navel was introduced from Australia in 1874 by Lewis Wolfskill of Los Angeles. The claim is made by Australian pomologists that the Australian Navel originally was imported from Bahia, and is the same as the Washington Navel. But the growth in California does not bear out this statement. R. M. Teague of the San Dimas citrus nurseries, informed the writer that the Australian Navel can be produced by allowing the trees to



Courtesy Salt Lake Route

most incredible. It has been reported that as much as \$3000 from one acre has been received, and \$800 to \$1500 was an uncommon yield. Of course, an industry which would pay such profits as eagerly sought, and land suitable for orchards advanced rapidly in value. Other lands advanced correspondingly, and it became profitable to raise oranges. In a few years Southern California became one of the most important sections of the State, and of the Southwest.

As to the date of the introduction of the citrus fruits in Florida, the writer has never investigated. Conditions in Florida being much different from those of Southern California, a large number of varieties are grown there, and orange production is worked on an entirely different scale. Catalogues of the Florida nurserymen list about thirty-three varieties of oranges. The standard varieties grown in Southern California, which we still maintain the true orange belt of the Pacific coast, practically are covered by the Washington Navel, Thompson's Improved Navel, Tardiff, or Valencia Late, Mediterranean Sweet, St. Michael, and some seedlings. Introduction to the various kinds of oranges will be of interest, and while the findings of the writer may not be perfectly accurate, from his talks with old timers and nursery men he believes the following statements are nearly correct:

go back to a primitive state, and that the orange tree is very susceptible to different culture, and that many sorts have been produced. For instance, he now has a tree with black wood, which has never borne an orange.

More from the same pamphlet with history of the navel will be given next week.

MECCA ORANGES.

Regarding raising oranges below sea level out on the Colorado desert, we note this in the Riverside Press:

P. T. Evans last night received by freight from Mecca, a barrel of oranges from the trees planted out on the land of the Peters-Evans-Gage syndicate. The fruit is a valuable object lesson in the possibilities of the desert region as a citrus fruit producing region, and the fruit men and orchardists have today inspected the oranges with a good deal of interest.

The oranges are of the navel variety, of good size and weight and as sweet as the average March navel in this district. The 300 oranges produced this year on the tree are highly colored and firm, but have a flavor distinct from local fruit. The oranges are more like the Florida product, being rather insipid than piquant, as is the Riverside navel. It is unquestionably the earliest fruit ripened in America, being in advance of the Florida oranges and of the Central California fruit.

The syndicate has seventy acres altogether in navels planted out at Mecca and when this district comes into bearing a distinct sensation will be created in Eastern markets.

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AN I.H.C. ENGINE
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THE HEAD YOU CAN
TAKE CARE OF



If you have to depend upon the pump for irrigating your land, you must have a powerful engine.

Formerly irrigation on a large scale by pumping was thought to be impracticable. But that was before the days of the I. H. C. engines.

In building engines for irrigation purposes it is necessary for the designers to take into account the fact that water must be raised in quantities, and that frequently it must be raised to a considerable height.

The use of hundreds of I. H. C. engines by practical irrigators is evidence of how well these requirements have been met, and how well the I. H. C. engines are adapted for this special work.

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CHRIST AND CHRISTMAS.

In this utilitarian age we are not to forget the significance of Christmas. Sorry are we to notice a disposition to turn from the beautiful tradition of the past which has rendered Christmas the holiest, happiest day of all the year, especially to the children, and to substitute pagan ideas, devoid of sentiment and teachings of christian graces which have done so much to civilize and christianize the world for nearly 2000 years.

The christian world has recognized one paramount thought in Christmas—giving in the spirit of love. The Christ principle teaches this and the human mind has so thoroughly absorbed this idea that to depart from it, or to separate Christ from it, would rob it of its significance. Christmas without the association of Christ would be absurd and meaningless. The two are synonymous, interwoven and a unity.

In this day of selfish greed, the children need, just as clearly as we can teach them, well defined ideas of the value of giving for the good giving does others. They need to have this thought kept prominently before their minds and any lapse from the beauty of Christ's example in this particular will prove a mistake.

Observe, therefore, the occasion in the spirit of the ages. Give for the pleasure it will promote in the heart of the giver, and remember that in so doing you sow the seeds of righteousness which in some later day will fill your soul with heavenly benedictions. "It is more blessed to give than to receive." This is the Cultivator's message to all its readers.

A farmers' institute is announced by conductor Neff for Jan. 7, at Hollywood.

ALIENS RUSH TO EUROPE.

One incident of the financial situation which has developed in the past month, is an unparalled emigration of foreigners. It is estimated that 200,000 aliens will have cleared from New York by the middle of December. Hungarians, Russians, Poles, Slavs and Italians predominate, although a pretty strong representation of Norwegians is included in this exodus.

The question naturally arises, where will the agriculturists look for labor, if this emigration continues.

Possibly the answer comes in the almost certain fact that there will be an exodus of young men from the stores and shops and railroads to the country, if the industrial conditions shall be affected for any considerable period.

Already young men are going into the country to find employment, and while they may not be as strong and as able to do a big day's work as the foreigner, they will be more intelligent and work to better ends. So the exchange of labor may not result as embarrassingly to the farmer as he now apprehends.

One thing is possible, as a result of the situation, and that is, that young men who have gone from the ranch to the city in the hope of bettering their condition, will drift back and remain permanently on the farm. When the young man takes a sensible view of farming, as it is being developed today, he will see that the average farmer who has nothing but his practical experience and native ability to depend upon, makes as much as the average professional man, lawyer, doctor or journalist, and better than the money he makes, gains health and independence. Looking at the proposition in this light, and remembering that modern methods of farming have relieved it of its slavery, made it an honorable and lucrative profession, no wonder the young man in the city is directing his thoughts toward the free and untrammelled life of the country.

Let the unintelligent alien return to his native land, if he so desires; there are enough American boys and girls left to take care of the agricultural interests of the country in a far more intelligent manner than has been the case under the hand of the uneducated foreign laborer.

POSTAL SAVINGS BANKS.

The Postmaster-general will again call the attention of Congress to his recommendation for the establishment of postal savings banks. He does this for two reasons: First, the convenience of the banks for public use, and second, their reliability. Having gone into the subject with much care, he finds that the people in general, will have more confidence in a postal bank-system, than in National banks. He maintains that many foreign-born citizens will not entrust their money to private corporations, or to National banks. In foreign countries they were taught to have faith in the government and they bring their ideas with them. The Postmaster-general recommends the payment of interest on deposits at the rate of two or two and one-half per cent, expecting to re-deposit the money in National banks at an advanced rate of interest. The government then would simply be an endorser, though the depositor would deal with the government exclusively. The certificate of deposit would be issued by the postmaster, and when it became due would be paid by the postmaster. It is stated that a large number of foreigners at the present time buy postal money orders and hold them for a year without interest, simply in order to have a safe place for their money. It is argued that postal savings banks would in no respect interfere with banks as now organized. It is also argued that postal savings banks would encourage all classes of people to save their money and place it on deposit, where it would discharge a public service. These suggestions on the part of the Postmaster-general are worthy of thoughtful consideration. Many European countries have been successfully carrying on the postal savings bank-schemes for a number of years. Former Postmaster-generals have recommended these banks, but did not succeed in securing public attention. Now that the country is considering banking systems, the Postmaster-general's recommendation may fare better than in former years.

Shop Talk

We suggest again this week the matter of CLUBBING RATES.

There is considerable good solid money (or scrip) to be saved by you if you will take advantage of our offer to price any list you may send us. We present a few more sample clubs this week which gives an idea of what can be done. There is no reason why you cannot get your CULTIVATOR free, and even more than that if ordering several magazines.

You can just as well make known to your neighbor that you would like to order their magazines for them, and divide the profit between you as you may arrange.

Remember, though, all clubs must contain the CULTIVATOR, either as a new name or a renewal.

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Sunset	1.50
Cultivator	1.00
All for	
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To each one you order the paper sent we will write telling them the name of the donor, length of subscription and wishing them a Merry Christmas.	
Use the order blank on another page.	

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All for	
Harper's Bazaar	1.00
American Boy	1.00
McClure	1.50
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All for	
* * * *	
The CHRISTMAS OFFER should not be forgotten. It is a simple way to make a few acceptable presents and credit your own account at the same time, as we allow you three months for each new name sent.	
To each one you order the paper sent we will write telling them the name of the donor, length of subscription and wishing them a Merry Christmas.	
Use the order blank on another page.	

TURN WASTE LAND TO PROFIT.

The Cultivator has persistently urged the practicability of turning unproductive land to profit by planting eucalypts or other wood-product trees. There are millions of acres of arid lands in California which might yield a handsome profit, in a few years, if they were planted to wood-producing trees.

Secretary Wilson advocates this idea in the following note:

"Our imports of wood products are steadily increasing and will continue to increase. We paid \$26,145,716 more for them last year than in 1905. Low-priced lands planted with young trees suitable to the conditions are likely to pay. Trees grow to useful size in seventy-five years. The softer woods are fit for use in twenty-five years, and thin, gravelly, or rocky soils should be planted with trees of some kind. The National Forests of the far Northwest are very grand, and grow mostly on soils that would not yield farm crops of any kind profitably. The tree subjects rocky soils to its uses, and gets its food by disintegrating the rocks that would yield plant food on no other terms. I have seen 300,000 feet of lumber which, were the trees removed, would not pasture a sheep through any known method of management. There are such lands in many of our States that should be planted with trees."

TABLE SHOWS INCREASED VALUE.

The following table shows the government's October estimates of this year's yields of corn, wheat and oats:

	Estimated yield, 1907.	Yield, 1906.
Corn	2,500,000,000	2,963,000,000
Wheat	625,567,000	735,000,000
Oats	741,520,000	931,000,000

The approximate farm value of crops is summarized as follows:

	Farm value, 1907.	Farm value, 1906.
Corn	\$1,375,000,000	\$1,185,000,000
Wheat	531,000,000	619,000,000
Oats	333,000,000	300,000,000
Other products	1,717,000,000	1,628,000,000
Total value	\$3,956,000,000	\$3,632,000,000
Increased valuation over last year	324,000,000	

Agricultural Notes of the Pacific Coast

Northern California

Considerable new acreage of oranges will be planted in Butte county this season.

Nearly all of Sacramento valley was visited by a heavy storm on the 6th and 7th.

Milk wagon drivers at San Francisco, now start at 3 a. m., instead of 5 p. m. as formerly.

The Sacramento valley is experiencing a revival of the interest of eucalyptus planting.

Ten million pounds of dried prunes valued at \$500,000, is the estimate of the yield of Sonoma county this year.

Prune packers at Anderson are still making many Eastern shipments and, as a rule, the fruit is bringing good returns.

A large number of fine cups are to be offered by the Petaluma Poultry Association at its show being held this week.

Snow has fallen on the mountains to the east of the Sacramento valley, and almost all the entire range is now white.

One day's rain last week at Ukiah amounted to an inch and a half. This makes a total for this season of 5.71 inches.

Santa Rosa hop growers are holding meetings hoping to form a hop growers' union, which will be an aid in securing better prices.

A number of sales of hops were made in Ukiah last week at two cents per pound for the crop of '06 and six cents for the present year's crop.

Sacramento valley shipped over three million dollars worth of oranges last year, and it is reported during the coming year increase that by at least a million.

Turkey growers near Colusa frightened away coyotes from their flock by attaching tiny bells to the turkeys. The coyotes are frightened by the tinkle of the bells.

Santa Rosa reports one farmer near that city who yet has 25 acres of natural tree growth on his ranch, which he refuses to have cut for stove-wood. Long may he live.

Ukiah hop growers are forming a district hop organization which will be a part of the larger organization being formed in the Sacramento valley and coast counties.

The soil proving so well adapted to grape culture near Arbuckle, Colusa county, the extension in planting will be great, and plans are now made for the planting of a great many cuttings this coming season.

Fruit growers of the entire section of the Sacramento Valley were given a treat by the gathering at Marysville of the most prominent fruit growers of California. The State convention was a great success.

The gathering of beets in the neighborhood of Woodland was continued until the first of this month. It is said to have been one of the best seasons in that section. The output from here amounted to 200 carloads.

An orchard of Franquette walnuts at Santa Rosa has proved very profitable this season. This is the oldest orchard of that variety of nut in this state, being ten years old. Mr. J. F. Burgess is the manager of the orchard.

Central California

A farmers' institute is being held in Ceres this week.

Lindsay has shipped nearly 700 cars of oranges up to this time.

The beet slicing campaign of the Salinas sugar factory closed last Saturday.

Spraying of orchards about Hanford for the peach blight is now in full swing.

The Modesto Canning Co. have filed articles of incorporation. The capitalization is \$15,000.

Property owners along the Pajaro river are endeavoring to preserve their land from overflow.

Wasco has been experimenting in sugar beets during the last season, and have found good returns.

The result of the recent effort to take part of Fresno county and add to Kings county failed to carry by 55 votes.

A shower last week over part of the San Joaquin Valley brought much comfort and did some little good to pastures.

Lemon Cove won the first premium for best display of citrus fruit at the recent fair from any one locality in Tulare Co.

The Stanislaus Industrial Exhibition have already fixed upon the date of the next Fall exhibit, which will be in September, 1908.

The Armsby Packing Company at Hanford is paying for fruit in time checks, which will be paid in cash as soon as returns arrive from the East.

A meeting has been called at Lindsay to form a permanent Orange Growers' Organization. It is hoped that the organization will extend all over Tulare County.

Farmers along the west side near Crows Landing are anxiously inquiring "Where is Hatfield?" His contract to furnish scads of rain after November 15th doesn't seem to materialize.

A meeting of representative orange men of Lindsay was held in that city last week to consider the advisability of organizing the citrus growers, and a motion to the effect that such an organization should be perfected was carried unanimously. A committee of seven was appointed to outline a plan of organization.

The following are the officers of the Tulare Grange for the coming year: W. M., J. T. Lawson; overseer, C. A. Henry; lecturer, John Tuohy; steward, F. H. Styles; assistant steward, A. J. Woods; chaplain, Mrs. A. Fay; treasurer, Mr. Watts; secretary, Mrs. B. I. Morris; gate keeper, H. Hunsaker; Ceres, Mrs. Lowman; Pomona, Mrs. Way; Flora, Mrs. Griffith; L. A. S., Mrs. J. T. Lawson; organist, Mrs. F. H. Styles.

The San Jose Grange recently elected officers as follows: Master, Robert Summers; overseer, L. J. Church; lecturer, Mrs. L. J. Watkins; steward, D. Satterthwaite; assistant steward, E. L. Roberts; chaplain, Mrs. A. Hulet; treasurer, Cyrus Jones; secretary, Mrs. Carrie C. Morris; gate keeper, Hugh Leigh; Ceres, Mrs. Sylvia Abbott; Pomona, Mrs. Hugh Leigh; Flora, Mrs. L. J. Church; lady assistant steward, Miss Alice Phelps; organist, Mrs. A. E. Winans; executive committee, E. T. Pettit.

Southern California

The peanut crop of Orange Co. is practically all harvested.

The Tustin Packing Co. ships about five cars of celery per week.

Celery has greatly improved in quality during the last two weeks.

Coachella is beginning to plan harvesting of onions for the Christmas trade.

Riverside is making a pull for the spring meeting of the State Fruit Growers' Convention.

Anaheim shipped 21 cars of walnuts this season, which is greater than its last year's output.

A company is to be organized to engage in "Thornless Cactus" farming on the Colorado desert.

Ventura county beet growers find best results by rotating beans or some other crops with the beets.

From fifty to 150 cars of oranges were forwarded weekly from Redlands during the shipping of holiday fruit.

The box famine or rather the fear of a box famine is causing much uneasiness on the part of citrus fruit shippers.

El Modena and Villa Park are acquiring quite a reputation for their winter vegetables as they are located in an almost frostless section.

The yield of peanuts of the San Joaquin ranch in Orange county for this season was about 9000 sacks, averaging about 45 pounds per sack.

Nearly 3000 acres of sugar beets have already been planted in Ventura county. Over 10,000 acres have been contracted by the Oxnard factory.

Ed Utt's chili dryer which was destroyed by fire a few weeks ago, has been replaced and is now filled with chili for next season's shipments.

Almost every farmer who had beans out in the October storm has been compelled to clean, or rather sort, his beans from those which were discolored by the storm.

Most orange packing houses in Southern California have closed until the January pack begins. The output of holiday fruit was the largest in the history of the industry.

Pasadena is planning for a tournament of roses on New Year's day. This day into which the Rose is made the queen of the carnival has become a great feature with Pasadena people.

The recent Farmers' Institute held at Brawley was well attended, and a good program rendered, though some Imperial Valley people maintain that it was hardly up to the last institute held there in being beneficial for giving information as to agriculture under local conditions.

A peculiar trouble has been visited upon the Chinamen and others employed to clean beans, a portion of which were spoiled by the October storms. The beans are cleaned by passing in front of the workers over a kind of screen which is kept in constant motion to pass the beans along. It is claimed this constant motion of the machine and the passing of the beans before the eyes has made some people so seasick that they had to throw up their job.

The Coast

Hemet farmers are rejoicing in rural free delivery.

Oregon prunes are beginning to move forward more rapidly.

The cost of inspecting Oregon sheep last year amounted to over \$4000.

Colorado claims to be one of the best of States for the production of corn and wheat.

Whitman County, Washington, will ship a total of ten times as many apples as last year.

The Verde valley show of agricultural products proved to be one of the finest displays ever made in Arizona.

The total number of sheep in Oregon at this time is 2,316,997; of these about 300,000 have been dipped for scab.

The Newberg, Oregon, meat packing company is said to be turning out a fine pack of cured meat this season.

The sheep industry of Utah is said to be in much better condition owing to a well managed campaign against the sheep scab.

One of the leading industries of the Salt River Valley is the production of olive oil. A large mill is giving extensive output this season.

The Willamette apple show held in Portland, Oregon, recently is commanding many commendatory comments from the press of that State.

The boll weevil, which has been so disastrous to Texas cotton growers, is marching eastward, and is now said to have crossed the Mississippi.

Texas railroad commission has instructed the more prominent roads of that state to buy more locomotives and cars for handling farm products.

The large number of apples stacked in the warehouses at Pullman, Washington, are being shipped out in refrigerator cars after a long period of waiting for shipping facilities.

The Director of the Idaho Experiment Station announces a short course in dairying and horticulture at the University of Idaho. It will begin Jan. 22 and run until Feb. 8.

The ninth annual fair of the San Antonio International Fair Association was held at San Antonio last month. The exhibition of Angora goats was said to be very fine.

Emery, Utah, which has been one of the heaviest shippers of alfalfa seed in the past, will have a far less output this year than for many years. Seed is now selling for 10 to 12 cents per pound.

The bank of Seattle, Washington, is planning to secure funds for moving the great grain output of that section. This movement has been held up by the shortage of currency for some weeks.

Farmers' schools will be held in Utah as follows: Kamas, this week, Mount Pleasant Dec. 16th, Pleasant View, Dec. 30th. These schools are similar to the Institutes of California, only more extensive.

Wheat shipments from Washington, which have been delayed so long by the car shortage, will now go forward much more rapidly. The cars have been secured by the action of the State railroad commission.

THE BEST LINIMENT

OR PAIN KILLER FOR THE HUMAN BODY

Gombault's Caustic Balsam

IT HAS NO EQUAL

For — It is penetrating, soothing and healing, and for all Old Sores, Bruises or Wounds, Felons, Exterior Cancers, Boils, Corns and Bunions. **Human CAUSTIC BALSAM** has no equal as a Liniment.

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

Perfectly Safe and Reliable Remedy for
Sore Throat
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The LAWRENCE-WILLIAMS COMPANY, Cleveland, O.

The Cream of Cream Separators

The Sharples Dairy Tubular is the cream of cream separators—the pick of the whole bunch. Simply can wait low, you can fill it with one hand. All gears enclosed, dirt free, absolutely self-oiling—no oil holes, no bother—needs only a spoonful of oil once or twice a week—uses same oil over and over. Has twice the skimming force of any other separator—skims twice as clean. Holds world's record for clean skimming.



Bowl so simple you can wash it in 3 minutes—much lighter than others—easier handled. Bowl hung from a single frictionless ball bearing—runs so light you can sit while turning. Only one Tubular—the Sharples. It's modern. Others are old style. Every exclusive Tubular feature an advantage to you and fully patented. Every Tubular thoroughly tested in factory and sold under unlimited guaranty. Write immediately for catalog J-260 and ask for free copy of our valuable book, "Business Dairying."

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Importer and breeder of RED POLLED CATTLE, SHROPSHIRE SHEEP, RAM-BOUTLETT SHEEP, HORNLESS AMERICAN MEFINO SHEEP. Both sexes for sale. Take electric car at Petaluma or Santa Rosa for LIVE OAKS STATION. Address all mail to
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Thoroughbred Holstein Bulls and Heifers
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Live Stock and Dairy

THE BABCOCK TEST.

THERE are several forms of sample holding bottles with glass stoppers. These are good but more expensive than necessary for the ordinary dairyman. I use the half pint cream bottles with snap tops. If these are kept in a dry place the tin caps will not rust. Rusting of caps is the fault complained of by some people that do not like the capped jar. The milk bottles with paper tops will not permit of a vigorous shaking up of the milk when the new samples are added. An open-mouthed bottle is objectionable on account of the dust falling into it; this may obscure the reading of the fat column with charred particles. A greater cause for errors in calculation is in having the cream to clot and dry by evaporation. As the tests deal with minute quantities at best, a little clotted cream put into the test bottle will increase the per cent of fat considerably. Putting the clot to one side will not answer, for then the milk is unduly impoverished.

The cream clots are best dissolved by carefully measuring the same amount of warm water that there is of milk, adding it to the jar and shaking until the clots are dissolved. In reading, double the amount of fat shown in the column. Curds are troublesome, also a tiny speck of concentrated lye will cut these readily. Be careful, for sometimes the acid will fly out of the test bottle when lye has been added to the milk. The lye is an extreme resort in these cases. The samples should be carefully enough cared for and enough preservatives added to prevent the curds from forming.

Taking the Samples.

The samples are taken from the milk pail after the milk has been weighed, not before. We use a milk "thief;" this is a long copper tube with a self-closing end, made for sampling wines. When it is put carefully into the milk pail it takes a sample straight up and down from the top to the bottom of the pail. While these copper tubes last a life time, the only thing that happens to them is that they travel with ease to the junk shop. They have to be kept under lock and key. The conical dipper made of granite ware lasts well and is of no value to sell. It does not matter how a sample is taken, only that it represents the average of the milk. The usual way of stirring the milk is to pour it from pail to pail until thoroughly mixed together. There is always more milk in the sample taken than is needed in testing. It is a more accurate test if an exact amount of milk is taken from each milking. The milk sample is poured from the dipper into a measuring glass, then from the glass exactly half an ounce is poured into sample bottle. Shake the sample bottle up to mix in the added milk. Half an ounce of milk from three days milking will give a sample of six half ounces or three whole ounces. This is enough for testing and allows liberally for spilling.

Preservatives.

The bichloride of mercury or corrosive sublimate tablets are convenient to use.

The bichromate of potassium comes in powdered form and is equally good as a preservative. It colors the milk a Chinese yellow, hideous enough to scare away any appetite for that milk. The corrosive sublimate tablets do not affect the color of the milk. There are two experiences firmly engraved on my mind that happened on the ranch as to the possibility of accidents from the use of a colorless preservative. One day a tramp came into the barn, picked up one of the jars, the head milker had time to knock from his hand the jar just as he raised it to swallow the milk. The tramp thought the milker struck at him, instead of at the bottle; a general mix-up ensued. The milker had a black eye and the tramp a bloody nose when peace was made and the matter explained. Then the tramp went to town and saw a shyster who wished to sue for damages for having poisoned milk around handy for tramps.

A Cat Story.

The other story I think I have told before. It was of a cat, a pussy that was a mighty hunter of gophers. She was wise, making friends with the cows. Out in the fields she would go with the herd. It was not uncommon to see her sitting on a cow that was lying down. She would wash her face and then curl up for a nap on her friend's broad back. No strange dogs dared molest her while she was among the herd. At milking time pussy would stand close to Angelo's side. She dearly loved warm milk. "Yow" said pussy, "ready" was Angelo's response; at the word a well aimed squirt of milk would go into pussy's wide-opened mouth. This would continue until pussy had a full meal. Angelo saw a bottle of milk standing on a low shelf and slyly poured it out for pussy. I had written on the jar "poison" in as large black letters as possible. As neither of them could read English this did no good. Pussy passed away. She is still a tradition at the barn, handed from milker to milker; the stories of her wonderful intelligence increase like all traditions as the years roll on.

Time of Testing.

Many dairymen starting to test cows that are being bred up to breeding form, think to do so every month is too laborious. It does take time, but by and by it grows very interesting, better than a "dime novel" the milkers often say. By tabulating the tests of a thousand cows it was found that a carefully made test at certain periods had a definite relation to the amount of milk a cow would give during the year. The cows should be tested six weeks after freshening and again at four months and a half, then again at seven and half months. The actual number of days in milking are then counted. The year is considered as many days as the cow gave milk. For the first couple of years with a grade herd this answers very well. But I would be willing to say the work of testing adds to the interest in the cows, that it is soon no hardship to do it monthly. The testing brings out many little things, slight irregularities in butter fat and milk flow, and starts the owner to

Cream Separators, all sizes, all prices.
O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

DR. HESS STOCK FOOD

Animal growth and milk production are dependent for full development upon a healthy digestion. The key to the feeder's problem then, is a suitable tonic to prevent derangement of the digestive organs. Dr. Hess Stock Food is such a tonic. By making the greatest proportion of food digestible, it keeps the animal in health, causes rapid growth and a full measure of production.



Professors Quittman, Winslow and Finley Dun endorse the ingredients in Dr. Hess Stock Food. It is the prescription of Dr. Hess (M. D., D. V. S.) and is sold on a written guarantee.

100 lbs. \$7.00 25 lb. pail \$2.00
Smaller quantities at a slight advance.

Where Dr. Hess Stock Food differs in particular is in the dose—it's small and fed but twice a day, which proves it has the most digestive strength to the pound. Our Government recognizes Dr. Hess Stock Food as a medicinal compound, and this paper is back of the guarantee.

If your dealer cannot supply you we will.

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We wish to call your attention to the fact that we have a large stock of Wood Sole Boots and Shoes of the very best quality. The Uppers are made of the very best quality Milwaukee Oil Grain. The Soles are well-shaped, and are an exact and comfortable fit, and our **Patented Fastening** makes this a **Waterproof Shoe**. We all know wood is a non-conductor, consequently it is much drier and a great deal **warm**er in Winter. They are lighter than Rubber or Leather Shoes and Boots. Shoes, \$2.00; Boots, \$3.25; Rails, 25c extra.

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This cut represents the Ohio Hand Feed Cutters, made in two sizes with 8 1/2 and 10 1/2 inch knives. They are light, but very strong and serviceable. Will cut hay, straw and dry, hard corn fodder, consequently they are the best general purpose hand machines manufactured. **Catalogue of Full Line Free on Application. Write to**

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Pumpkins are much better when steamed than when boiled.

Investigating. Little leaks that are eating into the profits are found at every hand. It will keep you figuring with pencil to feed as cheaply as possible. When, at last, you do arrive at an understanding of the cows, it becomes an absorbing study.

The Best Cow.

One may follow cow judging and think they know all about the cows, but they will never know how little they really do know about a cow until they follow her milk tests as a producer over a term of years. I am willing to propose this test to any one who has an untested herd. Pick out the ten best cows and the ten ten poorest cows of the herd. Then select from the ten best the first, second and third best. From the poorest the first, second and third worst. Put it into writing. Have as many more of your friends do likewise as you can find. Then test one year. I would be willing to wager that you will not have chosen the best cow for number one or the worst cow for the end of the list. I have known instances where the three best cows of the herd were not in the first ten chosen, nor were the poorest in the last ten. The reason lies in this—that the steady cow that makes no spurts, is the cow that continues to the end and makes the money. It is the drop by drop that fills the milk pail day after day that counts.—M. E. Sherman.

DO SHEEP INCREASE FERTILITY?

A correspondent from Inyo county writes: "In your judgment will sheep increase the fertility of land?"

This question was referred to a sheep grower of many years' experience, and he makes this answer:

"Sheep are great renovators of wornout farms and conserve fertility. They not only conserve fertility, but they distribute it if so allowed. As cleaners of land they are fine. I once turned some sheep into an alfalfa field; they at once sought out the spots where the alfalfa did not catch and eagerly devoured any weeds or grass that had taken possession of the spaces. They then sought the weeds and succulent grass in the low places and runs in the fields, leaving the grass on the high land, where most needed to enrich the soil, untouched, only touching this grass when practically everything else had been eaten.

"More than this, when night came the sheep sought the higher portions of the field for their resting place and their droppings there deposited the fertility gathered during the day from the lower land, thus conveying back what had been washed away through the process of nature and cultivation. A farm upon which sheep are kept ought to be not only fertile, but also evenly fertile, which is a much desired condition. Farms are very few which cannot with profit keep sheep."

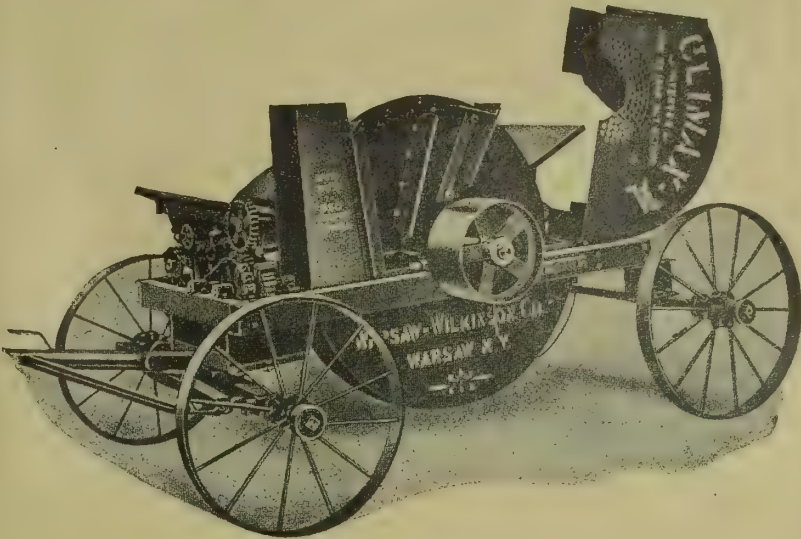
Butter can be more thoroughly washed free from buttermilk while in the granular condition than after it is gathered or pressed into a roll.

Rapid milking is an advantage if it is done without hurting or irritating the cow and she is milked clean.

The best plan is to maintain the milk flow as uniformly as possible while it continues.

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

Climax Ensilage Cutters



In the Climax Pneumatic Ensilage Cutter both the cutting and elevating are done by a large wheel which carries the knives on one side and the elevating fans on the other. Both the cutting and elevating, therefore, are done at one operation, in a much simpler manner and with an expenditure of much less power than in those machines where the elevating device is a fan attachment added to the cutter.

The convenience of having an ensilage cutter of large capacity on its own road wheels is obvious. We confidently assert that no other ensilage cutter is so easy to work and easy to move and set up as ours, or has such large capacity for power used. They are unequalled in simplicity, strength and durability, convenience and safety in operation, and the excellent quality and uniformity of the silage.

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for ensilage cutters of the side-wheel type, 15 to 25 tons of green corn per hour, where cut in one-half-inch lengths, other feed in proportion. For further particulars, call on or address

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The Ornamental Garden

IDEAL POTTING MATERIAL.

HERE is the method employed in the manipulation of the leaves by a large greenhouse whose potted plants speak eloquently of the value of the leaf mold, which has been used in their growth:

After the leaves have fallen in autumn they are raked up with common hand rakes and loaded into push carts that have had a light framework added to the top, lined with cotton cloth. A man with a rake and one of these cars can gather an enormous heap of leaves in a day. A similar square frame, lined with cloth, could as readily be fitted to a common wheelbarrow if a push cart is not at hand.

Put into Bins.

The leaves being light and dry, cannot now be placed in the piles in which they are to be converted into leaf mold, but must be put into great bins out of doors and left to become sodden with rain during the winter, in which condition they can be handled with manure forks. These bins can be made of fencing a little plat of ground, twelve or fifteen feet square, with old boards or with wire poultry netting. Drive stakes at the corners, with two or three along the sides, and nail the boards to these, leaving open spaces of three or four inches between the boards, or stretch the netting from post to post and staple it well.

To Facilitate Rotting.

During the following spring and summer the leaves should be turned over occasionally, as exposure to the air will facilitate rotting. In the fall put the half rotted leaves into a square, compact pile and allow them to remain here over the second winter. During the following season they will be found to be reduced to a fine, crumbly condition, which makes ideal potting material and is exceedingly useful for spading into the flower or vegetable garden out of doors.

In the meantime, of course, another year's autumn leaves have been raked up and carried to the bins, where they in turn will become thoroughly wet and compact by the rains and snows of winter. Thus every year there is at hand a supply of the most valuable material that can be obtained by the gardener, and that, too, at very small cost.

IXIAS GIVE TELLING COLOR.

For bright and telling color there are few bulbous plants to compare with ixias. In the southern and western States they may be grown with ease. In warm latitudes they may be kept out of the ground as late as December, and when planting a little sand or road grit should be placed around the bulbs. They like a sound, well cultivated rather than a very rich soil and one of such comparatively light nature that the roots run through it freely. In borders close to the house where the young growth is protected from the chilling winds in spring they succeed and have a very fine appearance.

If grown in pots in the green house they may be potted at various times to obtain a succession of bloom, but must not be forced or hurried along in heat. Any one who has grown *Gladious*, the *Bride* under glass may take up ixias with every prospect of success. Place five to eight bulbs in

four-inch to six-inch pots in a compost consisting of light loam, leaf mold and a little well decayed manure. Give one watering to settle the soil and then place the pots under a bench or in a cool shed, covering them with ashes. This will encourage root action, which it is necessary to do before the tops begin to grow. When growth commences take them to the greenhouse and bring them on steadily until the flowering stage. Then gradually dry them off at the root, and when the foliage has quite died down store the bulbs in a cool, dry place until again needed, or they may be left in the pots and kept dry if this is more convenient.

NOT ALWAYS NURSERYMEN'S FAULT.

It is with much pleasure and profit that I read your valuable paper. The article in the number of Nov. 21st, entitled "Pedigreed Nursery Stock," attracts my attention at this time, for the reason that of late I have heard a great deal about nursery stock not being true to name. While this article is of interest and is logical, it is also worthy of consideration. But still, it casts an undue reflection on the nurseryman.

I have had considerable experience in the nursery work and am acquainted with its difficulties. The fault does not all lie at their door, for so often that a nurseryman takes all the precaution that he can and sends out trees that are absolutely true to name. The trees are planted, by just as unexperienced labor as the nurseryman had, and cultivated with same kind of hands. Trees let go until pruning time comes around; the same kind of men go out to prune. By this time the trees have grown over the scar caused by the graft or bud and in many cases there sprouts that have come up below the graft or bud, on account of its being direct from the main stock it takes more sap and becomes much larger than the graft and in many cases the graft or bud dies, the tree is cut off, the seedling sprout saved and brought up to bearing. The result is a seedling, and in some cases it so resembles the variety wanted that the owner never knows what has taken place, and in other cases the tree is a worthless seedling and the nurseryman gets the blame that is not due him.

This all happens many times, yes, very many times, that I know of. It happened with me many times and I know of very peculiar examples.

One of the most peculiar instances, was in a lot of Muir trees. When they came into bearing there was a Lovell, but it was not a Lovell for it ripens 10 days later and there was not a Lovell tree in the block of Muirs, which the scions were taken to bud the Muirs, neither was there a Lovell budded in the nursery or was there one on the place. I could give you dozens of such cases, but time forbids.—A Grower, Dinuba.

THE COMPOST HEAP.

Compost anything and everything, including your barn manures, your anthracite coal ashes, your autumn leaves, all your old refuse stuff, and plow under your legumes. The man who burns up his annual crop of leaves and waste stuff and then is compelled to spend his good money in buying fertilizer is not wise.

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The Fruit Growers' Convention

THE Thirty-third Fruit Growers' Convention, which was held at Marysville this year, while not so numerously attended as most of the recent conventions have been, was nevertheless one of the most interesting and instructive that has ever been held. Interest in the proceedings was maintained from the beginning to the end, and at the close there was still a very good audience present.

The papers and addresses, taken as a whole, were the best ever presented at a convention of fruit growers in our state and very many attractive features were introduced. The opening address was made by Governor Gillett, who made a very happy and well turned speech congratulating the fruit growers and assuring them of his hearty sympathy with them in their great productive industry and giving them the assurance that, while he is the governor, the influence of the administration will be used to forward their work by all legitimate means.

J. W. Jeffrey, the new Horticultural Commissioner, made his debut as chairman of the convention. His address was well received by the audience and carried with it conviction that he was a man who would do his duty in the responsible position to which he had been appointed. It was a well prepared address, abounding in good points, and breathed a spirit of fairness and civic pride which made friends of all present. There has been an idea abroad in Northern California that Mr. Jeffrey would be a Horticultural Commissioner from Southern California, but after hearing this address, it was quite evident that he is a Horticultural Commissioner in California. He is very broad—broad enough to comprehend the entire State and to understand its diverse requirements.

Space prevents even a mention of the many good papers which were read and the instructive debates which followed, but something must be said of three features especially and one of these was the address of M. O. Lownsdale of La Fayette, Oregon, on the Apple in the Willamette Valley. Mr. Lownsdale is the largest apple grower in the whole Pacific slope, and he fully appreciates his work and loves the apple. His address was a poem in its phraseology and its rendition, as he pictured the beauties and glories of his favorite fruit. He is an eloquent speaker, and his audience listened spell-bound during the rendition of his address and applauded to the close of its conclusion.

The next was the address of John P. Irish on the labor question. Mr. Irish is too well known in our state to require an introduction to our readers. He is one of the most eloquent orators in California, and always talks as he believes. He is convincing, for this reason, and usually carries all with him. On the present occasion he touched upon a matter upon which the fruit growers of our State, in common with all other agriculturalists, are in deep sympathy, the necessity of securing some form of available labor to harvest their crops. He showed that the labor unions of the city dominate the whole country, and that by this domination and their reckless disregard for the rights of others, they are crippling

the agricultural industries of our state. That there are certain forms of work which white men cannot or will not do, and for these we must have other classes of labor, that this labor, so far from competing with white labor, is an adjunct to it and opens new channels for it. He illustrated this by the difficulty of getting labor to thin beets in the field, and showed how white men would do the plowing and the sowing and cultivating, labor which could be done with machines and horses, then when the beets were delivered at the factory white labor again would take them and do the necessary work of manufacturing, but when it came to the stooping over day after day, in the hot sun, thinning the plants, the white man rebelled and either some other form of labor must be had or the crop be lost; so it was absolutely necessary that some form of labor must be had to step in between the time of planting and the time of manufacturing, or the men who were engaged at both ends would have no employment and, therefore, such labor was an aid instead of a menace to white labor. He made other illustrations of a like nature and concluded by presenting a memorial to congress to repeal the Chinese restriction act. This memorial was adopted by the convention en masse without a dissenting vote.

The third great address of the convention was that of James Mills of Riverside, on the Value of Cover Crops in Preserving the Life of the Soil. Mr. Mills is a brilliant talker, and he has a thorough mastery of his subject. The title would indicate a dry topic, but the hall was filled to hear it and from the beginning to the end the speaker held his audience. His address abounded with valuable facts, all of which were of direct interest to every person present, as showing the absolute necessity of feeding the soil, if we would continue to have crops, and the superiority of some cover crop, preferably one of the legumes, for this purpose. Mr. Mills' address was at once eloquent and convincing and he held his audience until late in the evening and then answered a rapid fire of questions, all of which indicated that he had been listened to understandingly.

An address by Prof. M. B. Waite of Washington, on California Orchard Diseases, was another subject of marked importance. Prof. Waite dealt principally with the pear and the peach blight, both matters of vital interest in the section in which the convention was held. His address was clear and instructive, and at its conclusion he was required to reply to numerous questions which he answered with great clearness.

Paul Shoup, of the Southern Pacific Railroad, gave a very interesting address in which he touched upon the Common Interests of the Fruit Growers and the Railroads, and explained how it was to the direct interest of the roads to give the best service in their power, and that this had always been done. It was true that transportation was not perfect, but new conditions are constantly arising, which present difficulties to the roads, and these are not often regarded by the shipper who desires perfect service for himself. Mr. Shoup

Continued on Page 605

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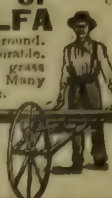
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Deciduous Fruit Culture

COMBINED INSECTICIDES FOR
PLANT LICE AND THE CODLING
MOTH.

ON ACCOUNT of the abundance of the green aphid and the woolly aphid in many fruit growing sections, it is evident that it would be a matter of economy to be able to apply together insecticides that would destroy both the plant lice and the codling moth or apple worm.

Years ago certain entomologists, recognizing the advantage of such a spray, advised the combining of kerosene emulsion and a spray of Paris green or London purple wherever it was found necessary to destroy both leaf feeding insects and plant lice at the same time. I tried the combination of these insecticides until I became thoroughly satisfied that it is not practical to use arsenical poisons with a kerosene emulsion.

The oil in the kerosene emulsion is broken into extremely minute globules causing it to be suspended in water, and every solid body, as the fine particles of Paris green or London purple, serves as a nucleus about which the little globules collect and then rise to the surface, which soon results in the separation of the oil from the mixture.

There are combined insecticides, however, that can be used with success, and probably there is none better than a spray composed of arsenate of lead and either tobacco decoction or a strong, soapy mixture.

The orchardists upon the Western Slope in Colorado have thoroughly demonstrated that a tobacco preparation known as Black Leaf Dip, used in water in the proportion of about one gallon of the dip to 65 or 70 gallons of water, is a very effectual remedy against the plant lice of the orchard when thorough application is made. It has also been thoroughly proven that arsenate of lead is one of the best, if not the best, arsenical poisons for the destruction of codling moth. As the tobacco preparation is not an emulsion and as it does not combine in any way with the arsenate of lead or act as an antidote to this poison, these two insecticides may be used together. In so doing it would be necessary to use each poison strong enough to kill the insects for which it is applied. By this I mean that the Black Leaf Dip should be in the proportion of about one gallon to 70 gallons of the mixture, and the arsenate of lead should be in the proportion of about one pound to 20 gallons of the entire mixture. As the arsenate of lead has no power to destroy plant lice, neither has the tobacco preparation any appreciable effect in destroying the codling moth larvae.

If winter or early spring applications have been made in the orchard for the destruction of the plant lice, and if these applications have been successful, it will not be necessary to add the tobacco preparation at the time of the first treatment of the orchard for the codling moth. In fact, it is probable that it would not be necessary to make the combined spray mixture before the first of June, or at the first spraying after the plant lice are noticed to be present upon the trees. On the other hand, if the winter or early spring sprayings have not been attended to, the combined spray could well be

used at the time for the first colding moth treatment, or when the petals have mostly fallen from the apple trees.

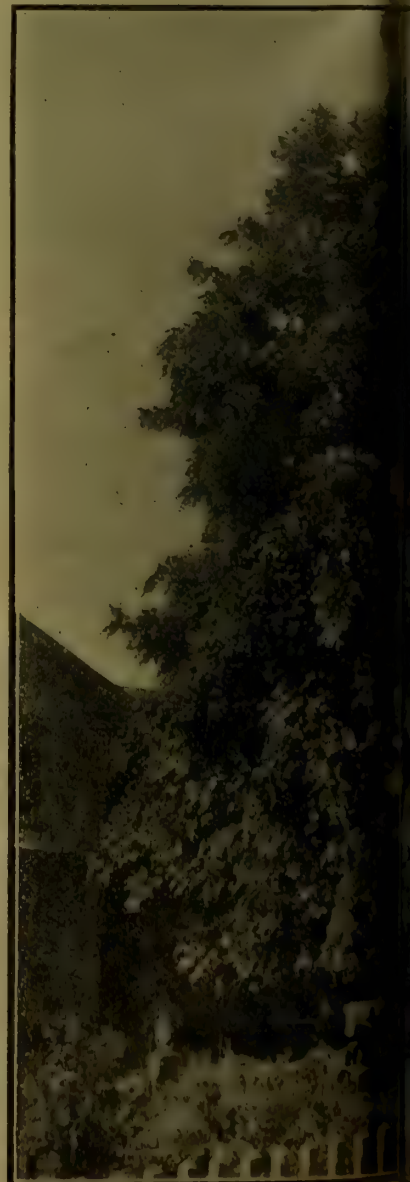
In case one prefers to use one of the whale-oil or tree-soaps in place of tobacco, they may be employed without any deleterious effect upon the arsenical poison, and neither will the arsenical have and bad effect upon the spray in its work of destroying the plant lice. Most soaps used for the destruction of plant lice may be used in the proportion of one pound to eight gallons of water. Then, in case soap is used, a 200-gallon tank should have about ten pounds of arsenate of lead and twenty-five pounds of soap for the combined spray mixture.

It will not do to depend upon using a combined spray at all times, because it will often be necessary to make an application for the codling moth when it is not necessary to make treatment for the lice. And it will also be necessary occasionally to make application for the destruction of the lice when it would be useless to add the arsenical poison.—C. P. Gillett of Colorado College.

A MAGNIFICENT LUMBER TREE.

On these pages appear engravings of The Royal Black walnut in full foliage and dormant. These engravings are from a catalogue of new products, which are now being handled by the Fancher Creek Nursery of Fresno. They are the result of the experimental work of Luther Burbank at his Santa Rosa experiment grounds. Mr. Roeding, of the Fancher Creek Nurseries, will handle a number of the Burbank productions this year, and to bring them before the public, he has issued an exceedingly beautiful booklet of 30 pages. It is not only filled with the half tone engravings similar to the ones on this page, but has a number of colored plates, which are works of art. This treatise, for it is such rather than a catalogue, will be mailed to anyone for much less than its actual cost. A price of ten cents has been put upon it, and anyone who wishes to see some beautiful color plate work, of some of the later Burbank plums, and of the finished lumber of the Paradox and Royal Black walnut, and at the same time see artistic printing, can well afford to send a ten-cent silver piece and ask for this booklet. It has excellent portraits of Mr. Roeding and of Luther Burbank besides its many other valuable features. Regarding the Royal, of which we give the photograph, the booklet says:

"The feasibility of growing the Black walnut for timber purposes has often been urged on land owners and foresters. The principal obstacle has been the rather slow growth of the tree, it requiring something more than twenty years to produce sawable logs. These conditions excited the mind of Mr. Burbank to the feasibility of hybridizing the Black walnut (*Juglans nigra*) of the Mississippi valley with the California variety (*J. Californica*) with the hope that the hybrid would produce a wood of fine quality and a tree which for rapidity of growth would produce merchantable timber in half the time required by the Black walnut,—a feat possible only by the patience, care, minute observation and "know how" of a Burbank. Hybridization in the



Sixteen-Year-Old
In

wild state happens at very rare intervals, hence we believe that the Royal is the first case on record of its having been accomplished artificially.

"The Royal makes such an unequaled growth that it will be best to plant the trees for timber growing about fifteen feet apart each way and when six to ten years of age half of the trees should be removed to give the remainder room. Cultivation during the first few years is of great advantage. Any ordinary crop can be grown among the trees until they claim the whole space."

THE FRUIT GROWERS' CONVENTION.

Continued from Page 603

assured the convention that his company was in hearty sympathy with them and rehearsed the many improvements which had been made by it in the transportation of fruit, and that it would continue to do all in its power to forward the great industry there represented. The address was in all respects conciliatory and won with the audience which, at its conclusion, heartily applauded the speaker.

During the convention week, the County Horticultural Commissioners held two separate business sessions, at which matters of direct importance to their labors were considered. There was also an Entomological session at which insect pests and diseases, and the various means of holding them under control, were considered.

These are but a few of the more important subjects dealt with, but there were many more, and every session was replete with excellent papers which evoked discussion and, taken together, the convention was one of the most instructive ever held.

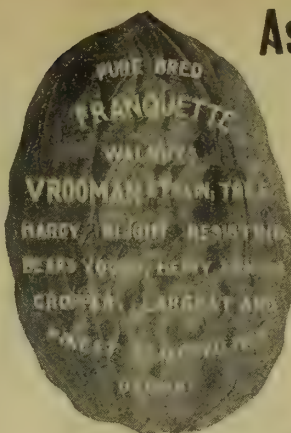
On the theory that, "All work and no play makes Jack a dull boy," the Committee of Arrangements prepared a reception for the attendants on Tuesday evening. This was gotten up by the Ladies' Civic Improvement Club of Marysville and the Women's Improvement Club of Yuba City. There was a large gathering of the people of both cities to welcome the fruit growers, and the evening was spent in friendly association. An excellent musical programme was presented and a most enjoyable banquet had been prepared. On Thursday an excursion over the electric lines to Oroville and Chico was given and nearly all the visiting members took advantage of it to visit these towns.

Upon adjournment those present gave a hearty vote of thanks to all who had been interested in making their visit an enjoyable, as it had been a profitable one, and the consensus of opinion among the members was that the Thirty-third Fruit Growers' Convention had been one of the most successful and best conducted, one of the most instructive and altogether one of the most enjoyable, ever held in California.

GRAPE CUTTING HINT.

Commissioner Pease of San Bernardino county says: "We have an authority here who says that contrary to old established rules that if in grape cuttings you will take two buds of the old wood each time you will get far better results."

C. F. Hiel left Los Angeles last week on the special celery train with notebook and thermometer, to follow the train to its destination in the eastern market. He hopes to secure information which will be of value during the remainder of the shipping season.



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Grape Cuttings

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The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

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POULTRY EXPERIMENTAL WORK AT STATE EXPENSE.

TOO much cannot be said of the great good that is being done by our State experiment stations to help the farmer to solve problems of the farm, problems that can be gotten at in no other way. This is especially true in the poultry industry. Do we as poultrymen and farmers get the benefit of the six millions of dollars that is being spent annually by the government and the State experiment stations for this experimental work? If you, reader, are not, you had better start now, for you are throwing away your share of the six millions, of which the farmer pays but one-third.

Experimental work, like inventing, is different from manufacturing, because the occasional great achievements must pay for the many trials that are not productive. Secretary Hays tells us, however, that it is not too much to claim that each dollar invested in this line of work increases agricultural production from \$10 to \$100.

Great strides have been made along this line in the last twenty-five years, and this is especially true of the poultry experimental work. It has only been about fifteen years since the first bulletin was published pertaining to poultry. This bulletin was published by the Rhode Island Station, the subject being Capons; the paper, however, was more on instruction than on experiment work. It was not long after this that several stations took up the poultry work, until today there is in nearly every State in the Union a poultry experiment department.

Every poultryman and farmer in the State should have his name on the mailing list of his State experiment station; by so doing he will receive free bulletins published by the station. He may also have his name entered on the mailing list of the Department of Agriculture at Washington; this will enable him to receive monthly a list of bulletins published by the department, from which he may pick out those of interest to him.

Do we need this State work in California? Let us look at statistics for a moment, and we find that in California there is being used annually about nine million dollars worth of poultry products. Of this amount there is produced in the State but six million, the remaining three being paid out to farmers and poultrymen of other States. This should not be so, for with our un-

surpassed climate and favorable conditions we should not only be raising all we use at home, but should be exporting to other States and countries.

Why let our Eastern brothers get ahead of us in this branch of experimental work? In a number of the Eastern agricultural colleges we find that poultry culture has been placed on the same ground and is given as much credit as other branches of agriculture. At a great many of the Eastern experimental stations as much, and in some cases more, money, is being expended for poultry investigating than on other lines of work.

The State of Maine is a good example of how a State can be benefited by this kind of work. Maine was one of the first States to take up poultry investigation, and I think that I am right when I state there is more and better poultry being raised per capita in the State of Maine than in any other State in the Union.

I am sure that there is not a poultryman in the State who will not agree with me when I say we should all work together for the upbuilding of this great industry in our own State. If we as a State can pay out annually three million dollars to the farmers of other States for poultry products, we surely can afford to increase the present appropriation of two thousand dollars, which our poultry Experiment Station at Petaluma is now receiving.

The California Poultry Experiment Station has done very good work in helping the poultrymen of the State to solve their problems, but it should be doing more. It is up to the poultrymen of our State to build up this great work, for I am sure that we now have enough people in our State interested in the poultry business who, if they get together, could have whatever they wish from the State for this line of work.

Let us get together. We want a poultry association in every county in the State, associations that will hold a good live meeting at least once a month, where subjects and problems that have come up during the month in the members' own yards can be talked over, and I venture to say that if the associations so wished they could have for the asking a State worker attend their meetings to talk on State work. Alfred G. Lunn.

A synopsis of State experimental work will be given next week.

MARKING POULTRY.

For any poultry keeper who makes even the least pretensions of being systematic, it is absolutely necessary to keep the ages and the blood of his birds. Sometimes we keep hens over for a second year, and it is not always easy to tell which is a one and which a two-year-old. Poultry fanciers use rings usually made of strips of aluminum and being numbered consecutively. If we have only a few birds to keep over, or desire to mark a few roosters for identification, these rings will do very well. With a large number of fowls to mark, as for instance, when we have different lots of the same breed, obtained from different breeders, or in order to simply

LILLY'S BEST SCRATCH FOOD

A perfectly balanced mixed grain feed strengthened with beef scraps, granulated bone, charcoal, grit and shell. It is rich in all the elements necessary to make hens lay and feathers grow. Practical poultrymen praise it highly.

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the year around and brings \$1.00 each when sold to market? Our **BUFF ORPINGTONS** are that kind. Write for show record never equalled on the Pacific Coast, Catalogue, and prices.

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Newbert's White Leghorns

Are the best in the State. I proved it at the last State Fair, winning four of the five firsts from the best breeders in the State. Hatching Eggs, \$6 per hundred, \$1.50 and \$2.00 per setting.

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BARRED ROCKS

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Free catalogue of heavy layers and finer list of eggs for hatching on application.

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mark a flock to keep track of their ages, we prefer to use a common poultry marker or punch, such as can be bought for 25 cents, and then punch one or more holes into the webs between the toes. This operation does not cause the bird any particular pain or inconvenience, but the mark will show ever after. Another method which we have practiced for many years, and which is extremely simple and has always given satisfaction, is the clipping off of the end of one of the toes. Our practice always has been to clip just the end of the outer toe of the right foot of any cockerel just after the operation of caponizing has been successfully performed and before it leaves the operating table. This treatment seems more cruel than it really is. It causes the bird little pain or inconvenience, and we always know our own capons afterwards by the missing end of that toe. Of course, a bird marked in this simple and perhaps crude manner would be disqualified as an exhibition bird, while toe "punches" of the regular poultry marker would not thus disqualify a bird. But one mark or the other it must be if we desire to avoid getting "mixed up" on ages and strains.—Practical Farmer.

WHY HAVE LATE-HATCHED PULLETS.

One of our exchanges gives the following advice as to late-hatched pullets:

"These late hatched pullets properly cared for will seldom lay until the following March after molting, but will be found to earn as much in their second year as in their pullet year. One cannot afford to kill a female until fully two years old."

That is all right so far as it goes, but we wish our esteemed contemporary had added the advice to not have late-hatched pullets if it is possible to get early-hatched ones or good yearling hens. Upon his own showing the late-hatched pullets seldom lay until the following March, after molting, and everyone knows that in March and after is the veriest low water mark in the price of eggs. Those late-hatched pullets have had to be fed and housed all winter, and there is a big hunk of "dead horse" to be gotten out of the way before there is any profit from their eggs.

The point is that house-room and food has to be provided for several months after the early-hatched birds have paid for themselves and are earning fat dividends, and if one has other birds to occupy the houses it is the greatest folly to keep the late-hatched pullets; if the houses would stand idle unless occupied by the late pullets there is justification for keeping them, but if there is a stock of good year olds to occupy them we strongly advise that they be kept over and the late pullets sent to market. The year-olds will lay as many eggs as the late pullets, the eggs will be larger and better for hatching in the spring, and the chicks hatched from the eggs of year-olds will be stronger and more vigorous.

It is certainly poor policy to keep a lot of late-hatched pullets if there is any other stock to occupy the houses; the only possible justification for wintering a lot of late-hatched pullets is in that fact, that one has nothing else to winter.—Am. Poultry Advocate.

50 Cent Eggs

You may feed grains alone until doomsday and you will never get many of them. You must supplement grains with some highly nitrogenous food, rich in protein, to keep the hen in good health, build up her system and furnish her with the material for making eggs.

Egg-More

is just this and nothing else. It is not a strong tonic and stimulant, but contains enough condiments to give the food relish and keep the fowls in fine fettle. Just a little fed daily with good grains, or even with bran will do it. It can be fed either dry or as a mash. The hens like it, they eat it, there is no waste. It makes the very cheapest Egg Food, especially if you can buy your grains at home cheaper than to ship them in. The cost is but a very small per cent of the increased egg production. 4-lb. package, 35 cents; 25-lb. pail, \$2.00; 50-lb. sack, \$3.75. If your dealer doesn't keep it, we will deliver a pail or sack freight prepaid by us.

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YOU WILL FIND THE LARGEST ASSORTMENT OF

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Beef Scraps Raw Bone

GUARANTEED ANALYSIS:

Protein65%
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Made of Cooked and Dried Livers, Lungs, Melts and Clean Scraps. No fertilizer ingredients in these Beef Scraps.

GUARANTEED ANALYSIS:

Protein25%
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Made of Clean Beef Bones, surplus fat removed. Cleanest Raw Bone on the Market.

Pure, Clean Animal Matter Poultry Foods

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All Eggs are from good, strong vigorous stock.



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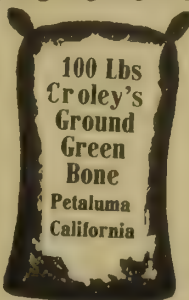
Single Comb Buff Orpingtons
White Rocks and
Indian Runner Ducks

Orpington and Rocks \$2 per setting; \$6 per 100.
Duck Eggs \$1.50 per 12.

Write your wants. Correspondence carefully answered.

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Starbuck's Barred Plymouth Rocks

We trap nest our hens. Why set from poor layers? Bird laying qualities are inherited the same as any other. This year we have discarded all old matings and have gone to the next generation. Cocks have 9 generations of 200 egg mothers. Hens are from 200 egg mothers and are laying fine. We have divided into pens according to the way they are showing up in four months laying. \$2.00 for 13 eggs from first pen. \$1.00 from 2nd. until they have time to make longer records. (Except from one best, \$20 for 13.) Same records for cocks. No Sunday sales or visitors.

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Mammoth Bronze Turkeys

One and Two Year Old Hens and Early Hatched, Well Matured Toms

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Well Bred, Carefully Selected Cockerels Good Style, Good Size, Pure White Birds

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Large and vigorous. Improve your stock with a setting or get a fine flock with an incubator lot. Eggs, \$1.50 to \$2.50 per 13, \$8.00 to \$12.00 per 100.

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Order eggs now, we have plenty of them. Have had all winter, great big white ones. Eggs, \$1.00 to \$2.00 per 13, \$6.00 to \$10.00 per 100.

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1907

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NAME	P. O. ADDRESS	STATE

Also please credit my subscription account three months for each new name above.

SIGNED _____

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Poultry Show Dates

Los Angeles, at Chutes Park, Jan. 6-12, 1908.—Second Annual Exhibition Breeders' Association of Southern California. Dr. Winslow, president; H. A. Meserve, secretary. Birds will be received January 1st. Judged by score card and awards read before public is admitted Monday, January 6th.

Pomona, Cal., Jan. 6 to 11, 1908.—First annual show of Pomona Poultry Association. Write C. C. McKey, 372 W. 2nd St., for remium list.

PRACTICAL HENS' NESTS.

The following description applies to a model of my hen's nest that I used as an illustration in a poultry talk at our local institute. It seemed "to take," so I thought that a description of it would be of some interest to your readers.

The plan of the nest is original with me, and the idea is that it can be easily and thoroughly cleaned, and also that it does not serve as a roosting place at night for the hens, as many nests frequently do.

The nests are made somewhat as follows: The bottom of one set of nests consists of a single board that rests on cleats or strips nailed on the upright end boards. The bottom can be removed at pleasure, drawer fashion, leaving the nests bottomless so that the old nest material, dust and louse-harboring filth, all drop out. There need be no boards nailed on back of nests, as the wall of the building where the nests are placed serves as a back. I place my nests so that the bottom of the nest is two or two and one-half feet from the floor, thus saving floor space. A 1x2-inch strip fastened perch-like, about six inches in front of nests, is very convenient for a hen that wants to lay, as she can pass along on it until she comes to a vacant nest. A board of nearly the width and of the same length as the top and hinged to lower edge of top can be laid back during the day, leaving the nests open, and let down at evening, closing the nests and then the hens have just one place to roost and that where they belong, on their perches.

Any number of nests in a set can be made, suiting the number to the convenient wall space. Mine vary from three to six, or about 15 nests in all, in each of my two buildings. If plenty of nests are provided and they are kept clean, and enticing nest material and china nest eggs are used, hens that have range will seldom steal their nests away. Rural World.

HIGH AIMS.

Little Johnny, having in his possession a couple of bantam hens, which laid very small eggs, suddenly hit on a plan. Going the next morning to the fowl-run, Johnnie's father was surprised to find an ostrich egg tied to one of the beams, and above it a card, with the words: "Keep your eye on this and do your best."—Tit-bits.

My hens had all quit laying. I knew not the reason why. Until I asked the old cock for the cause, and he gave me this reply: "The ladies are out upon a strike. They are greatly aggravated. The old white nest egg's out of style. They want it decorated."

Occasionally you meet a man with a strong will who could add to his popularity by vowing not to brag about it.



Top Prices for Poultry

Suppose your flock of chicks or old fowls will average a certain weight at market time. Suppose you so handle them as to make each weigh a full pound more than you expected. That would be a nice, clean, extra profit, wouldn't it? Do you know that

DR. HESS Poultry PAN-A-CE-A

given as the makers direct, will help a fowl to digest and use such a large portion of the daily feed that it actually grows larger and heavier than it would be possible to make it without Poultry Pan-a-ce-a? This is true. Poultry Pan-a-ce-a contains the bitter tonics to act upon the digestion, iron for the blood and nitrates to expel poisonous matter. It is the prescription of Dr. Hess (M.D., D.V.S.) and is a guaranteed egg-producer as well as flesh-former. Makes chicks mature early and also prevents poultry disease in old or young.

Poultry Pan-a-ce-a is endorsed by poultrymen in United States and Canada. Costs but a penny a day for 30 fowls.

Sold on a written guarantee.

1½ lbs. 35c 5 lbs. 85c.

12 lbs. \$1.75 25 lb. pack \$3.50

Send 2 cents for Dr. Hess 48-page Poultry Book, free.

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Instant Louse Killer Kills Lice.
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ORPINGTON RESERVATION

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ORPINGTONS.

EGGS—PRIZE WINNING OR BREEDING STOCK

One bird or Fifty—One setting or 1000 eggs that hatch, at prices in proportion to quality. Orders booked now for delivery.

We want you to see our place and birds, and will give you a reduction on purchases if you will call in person, but if you can't come send for our catalog. Worth money, but free. 1 blk. north, 2 east of P. O. P. O. box 125. Altadena, Cal.

Spargur's Trap-Nested White Leghorns

Eggs \$1.50 per 15, \$7.00 per 100. I. R. Duck Eggs, \$1.00 per 13, \$5.00 per 100.

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The World's best layers. Our folder for '07 is ready. Drop a postal to J. W. Shade San Bernardino, Cal.

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Alamo Engines

See others but don't buy until you have seen an Alamo. Drop us a card.

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Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Planting on Wet Land.

In your issue of Nov. 28th I note the enquiry of E. R. J., who wants something that will grow on light, mellow land that is partially covered with water during a portion of the year.

Of course, it is not safe at this distance to say positively that anything will grow there, especially as I do not know how cold it gets in winter or what the condition may be as to alkali, etc. But I think it very probable that the enquirer could succeed in growing either *Eucalyptus botryoides* or *E. robusta*.

Some years ago I had a small piece of wet land which grew nothing except cattails and willows. I planted a portion to each of the above varieties of eucalyptus and was very successful and have since recommended these trees to several friends who have planted successfully in ground that had become so filled with water as to drown out orange and lemon trees.

I now have young trees two years old that are growing right in among cattails and rushes. At one time the ground in which some of the trees were planted was covered with water three or four inches deep for nearly three months. While in this condition the little trees stopped growing for a time, but by the time the surface was dry enough to walk on, they were again growing vigorously. I am now planting along a little creek running through my place where at present willows and small cottonwoods are about all that grow.

I find that both of these eucalypts will stand a moderate amount of alkali and will stand considerable more frost than the blue gum though, of course, like all of the eucalypts they will not grow if there is very much frost to contend with.

The *Eucalyptus robusta* is known in Australia as Swamp mahogany,

but unfortunately, it has been planted in this country quite extensively in dry locations as a shade and ornamental tree and has nearly always proven a disappointment, owing to its inability to stand drought and because its limbs were so brittle that they were constantly breaking off leaving a very unshapely tree. When grown in wet land it appears to be less brittle and makes a much prettier tree. The wood is not very good for fuel, but is said to make good fence posts. The tree blooms very profusely along about Christmas and is valuable as a bee tree. The tree when grown in favorable locations is certainly as pretty as one could reasonably wish, but is absolutely unfit for planting in dry situations.

The *Eucalyptus botryoides* is known in Australia by the name of Bastard mahogany, and is also sometimes called Swamp mahogany.

I believe this tree is superior to the robusta for general planting, as it seems to grow faster and, larger in this part of the country than does the robusta. I also think the temper is of a better quality, but with me it

has not proven so pretty a tree nor so good a bloomer as the robusta.

In planting these trees in wet land I have simply used a brush ax to cut down the brush and rushes so as to let in the sunshine, and have then dug a hole for the plant with a shovel. After planting the tree I raked some of the grass back around it for a mulch. Then I let it alone except that later I cut back some of the willows that were growing so fast as to shade the young trees. Some of the trees grew ten feet the first year, but I found that the best growth was in land that was not covered with water, although water was within a foot or so of the surface.

I have little doubt that these trees will grow in many places that are now practically waste land, and will not only improve the appearance of the place but will yield a very fair revenue in the way of fence posts and other timber.—J. H. Dodson, El Cajon, Cal.

Alfalfa Tainting Milk.

A subscriber of Washington, Nevada county, wishes to know if feeding alfalfa will taint milk. If so, how can it be overcome?

No! The taint of alfalfa is from the outside of the cow. When the alfalfa is rank it is well to bring the cows in from the pasture half an hour before milking time and allow them to stand around until they have breathed off the gases. Cover all droppings made while milking at once with land

plaster; if the plaster or gypsum is not easily to be had, use dry earth. Have a box filled with it and a shovel ready to use at once.—M. E. S.

Plants for Overflowed Land.

Regarding query as to plants on overflowed land E. R. J., who recently asked information, is promised further information if he will write W. J. Curry, Bells.

Logan Berries and Dewberries.

In your question and replies columns, will you state if there is any book or pamphlet published in California on the culture of Loganberries and Dewberries? When should Loganberries be pruned, and what length should the vines be pruned? What is the best way to trellis them, low or high or let them just remain on ground? Should the Dewberries receive the same treatment as the Loganberries?—A New Subscriber.

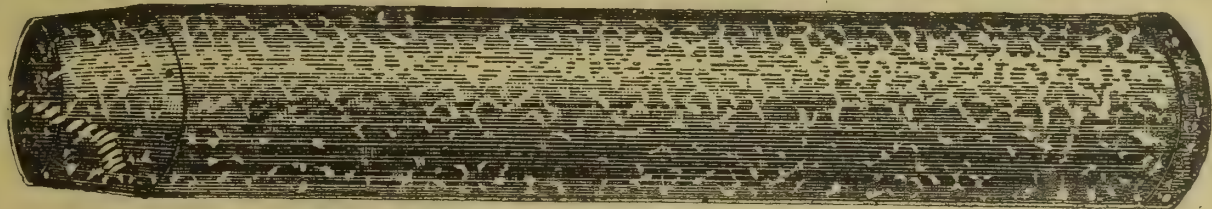
There is no such book. See Mr. Lobingier's article in vegetable garden department last week.

Squash Seed.

Please inform me through the Queries Department how to get seed out of Hubbard squash in marketable shape. I have 25 tons of squash that I am unable to sell, and would like to keep the seed.—F. W. Steward, Santa Clara.

The only way to save these, so far as we know, is to open and remove the seed, which are thrown with the pulp and fiber connected with them on a coarse screen, fine enough so that

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the seed will not wash through. A hose with water under strong pressure will drive the pulp away from the seed, which can afterwards be dried in the shade and put in sacks for the market. It would not be best to rot down this pulp, because it might possibly injure the seed.

Pruning Eucalyptus.

I planted some Eucalyptus about nineteen months ago, and am told I should trim the lower branches from them, but others say not to do so, but leave them stand.—A. B. C., San Dimas.

We would prefer very much the advice of the latter, and should leave all limbs on the tree until they naturally drop off, unless they are near a walk or where it is objectionable to leave them on the tree. This will give a larger and stockier trunk.

Fern Ball.

I have read with deep interest the article under the "Department of Ornamental Garden" in the "California Cultivator." What treatment should be given to a Japanese Fern Ball? Several weeks ago I received one, and although I have given it plenty of moisture it still remains dormant. Should it be put in a wire basket or surrounded with dirt?—Mrs. F. H. S., Nordhoff.

Do not surround the ball with dirt but simply keep provided with moisture and it will doubtless be all right as soon as warmer weather comes. This is the dormant season for that particular plant, and it needs the warmer weather to bring it out.

Pruning Loganberries.

Please give best methods of pruning and trellising loganberry vines. My vines of last year's growth are from ten to fifteen feet long, and the ground has been heavily manured. I think I can get better berries by pruning back.—J. C. James, Atwater.

Last week's Cultivator had so complete an answer to this in vegetable department, written by Mr. Lobingier, that we refer our inquirer to that paper for his answer.

Dissolving Bluestone.

Kindly tell me how best to dissolve bluestone. Does mixing lime and

bluestone together kill the strength of either?—R. Winters.

To dissolve bluestone, suspend in a cotton bag in the barrel or vessel of water which is to be added to the lime solution. As to adding the two together, note the instructions which have been given in the Cultivator and have each well dissolved and diluted before bringing together, then to secure the most perfect results, the two may be poured together into the water with constant stirring. This gives a perfect mixture.

Clean Winter Cultivation.

Is it best to plow and cultivate a young orange orchard now or would it be well to allow wild oats, burr clover, etc., and plow them over in January or February?—W. V. H., Porterville.

There is a diversity of opinion as to clean culture or allowing cover crops to grow for plowing under. But we think the cover crop advocates are winning and becoming more numerous and the practice is more generally followed each year. This is especially true at Riverside, where formerly the cleanest culture prevailed. It is now too late to plant peas or legumes for the purpose of making a cover crop, but any natural growth of the land should be encouraged then plowed under with a heavy chain on the plow or disked into the soil as some prefer.

Frost Protection.

Has it been demonstrated by actual experience that smoke and smoke alone is a frost protection for citrus groves? If so, to what extent?—R. H. G., Fullerton.

The smudging or smoking method of frost protection has been almost generally abandoned, as its effect was found to be so extremely slight as to be of little value. The method now generally used is the direct coal fire in baskets or the briquette fire in small stoves. The effort being to secure direct heat with no effort whatever to secure a smudge. The

objection to the smudge or smoke was that it injured the fruit, and the condition of atmosphere is such at time of frost that even immense quantities of smoke are dissipated and of little value in raising temperature.

Plowing Old Alfalfa Land.

I have some alfalfa land which is four years old not irrigated for the past two years. I wish to plant vines. How can it best be killed out.—P. J., Lodi.

The best method we have seen for handling this is with a sharp steel plow sent into the ground deep enough and with a narrow enough cut that a perfect turn-under is made of the roots and top. To accomplish this best, of course, the soil would have to be fairly well moistened.

Moles.

Please tell me through the Cultivator how to get rid of moles?—C. B. W., San Jose.

The only method which we have found that works with the mole is a trap specially made for them. In the writer's own lawn all kinds of efforts were made to poison and to capture by digging long distances in the burrow, but always in vain. Finally a trap was purchased; it was the Peerless, we believe, which has two separate sets of jaws, one on either side of the trigger. A fresh part of the run is taken and with the foot the raised soil is pressed down firm and hard and the trap with one jaw on one side of this firmed ground the other on the other. This brings the trigger directly over the ground which was pressed down into the run. As the mole comes through the run he forces the earth up again which springs the trigger and he is a dead one in the trap.

Los Alamitos sugar factory produced 13,000,000 pounds of sugar this season. This is more than its last year's output, though the acreage of beets this year was only 6000 as against 7000 last year.

Veterinary Instruments, Black Leg and Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

THE HOWARD SALE.

The sale of fifty thoroughbred Shorthorns at the Howard sale last month was a successful affair. The prices were not as high as the first annual sale, but this is explained, doubtless, by the financial condition this year not being as favorable as last year.

Mr. Howard says of Mr. Geo. P. Bellows who conducted the sale: "His usual apt and business-like manners wins, and it is worth an admission fee to hear and see him."

The sales made were as follows: Cows and Heifers.

Orinda Lass, Henry Eakle, Woodland, Cal., \$140; Philomena 63rd, J. C. Hodges, Monterey, Cal., \$110; Princess 22nd, F. Bishop, Guadalupe, Cal., \$80; Philomena 64th, J. C. Hodges, \$105; Inwood Philomena, Grant Howe, Newman, Cal., \$70; Inwood Philomena 2d, J. C. Hodges, \$75; Heifer Calf, out of Inwood Philomena 2d, California Polytechnic School, San Luis Obispo, Cal., \$80; Dandelion 33d, Daly & Tilton, San Francisco, Cal., \$80; Fashion's Mystery, F. Bishop, \$90; Redbud 27th, J. C. Hodges, \$65; Irish Maid, D. Wade, San Jose, Cal., \$55; Spicy's Dandelion 2d, F. Bishop, \$90; Hopeful 77th, F. Bishop, \$80; Royal Heiress, R. E. Easton, Watsonville, Cal., \$75; Miss Harold 38th, J. E. Dickinson, Fresno, Cal., \$65; Countess Amaranth, J. E. Dickinson, \$60; Philomena 76th, M. F. Wasson, Merced, Cal., \$65; Miss Harold 39th, J. C. Hodges, \$80; Mary 35th, S. Newman Company, Newman, Cal., \$65; Philomena Duchess 2d, Grant Howe, \$55; Philomena 78th, R. E. Easton, \$60; Philomena Duchess 3d, Daly & Tilton, \$70; Mystery Duchess 2d, Daly & Tilton, \$30; Princess 25th, Daly & Tilton, \$80; Hopeful Duchess 4th, Daly & Tilton, \$80; Philomena Duchess 4th, Daly & Tilton, \$67.50; Aster Duchess 3d, Daly & Tilton, \$67.50; Gustina, Daly & Tilton, \$70; Gustina 2d, Daly & Tilton, \$70; Gustina 3d, Daly & Tilton, \$70; Gustina 6th, F. Bishop, \$72.50; Gustina 8th, F. Bishop, \$72.50; Gustina 9th, Daly & Tilton, \$80; Gustina 11th, Daly & Tilton, \$80.

Bulls.

Chieftian 10th, 283341, Howard Tilton, San Francisco, Cal., \$100; King Spicy 99th 283735, W. W. Wright, Newman, Cal., \$300; King Spicy 102d, Frank Carrick, Ingomar, Cal., \$55; King Spicy 103d 283736, M. A. deLaveaga, Tres Pinos, Cal., \$145; King Spicy 104th, E. S. Wangenheim, Newman, Cal., \$50; Pioneer 2d, S. Newman Company, Newman, Cal., \$75; Pioneer 3d, F. Bishop, \$235; Quinto Knight 2d, A. Carver, Woody Kern, Cal., \$150; Pioneer 4th, S. Newman Company, \$90; Gustine Prince 2d, M. E. Wasson, \$65; Gustine Prince 5th, Daly & Tilton, \$75; Gustine Prince 6th, R. E. Easton, \$80; Gustine Prince 7th, D. Wade, \$75; Gustine Prince 9th, Daly & Tilton, \$80; Gustine Prince 10th, H. P. Eakle, \$65; Quinto Duke 25th, A. Banta, Pacific Grove, Cal., \$125.

Averages.

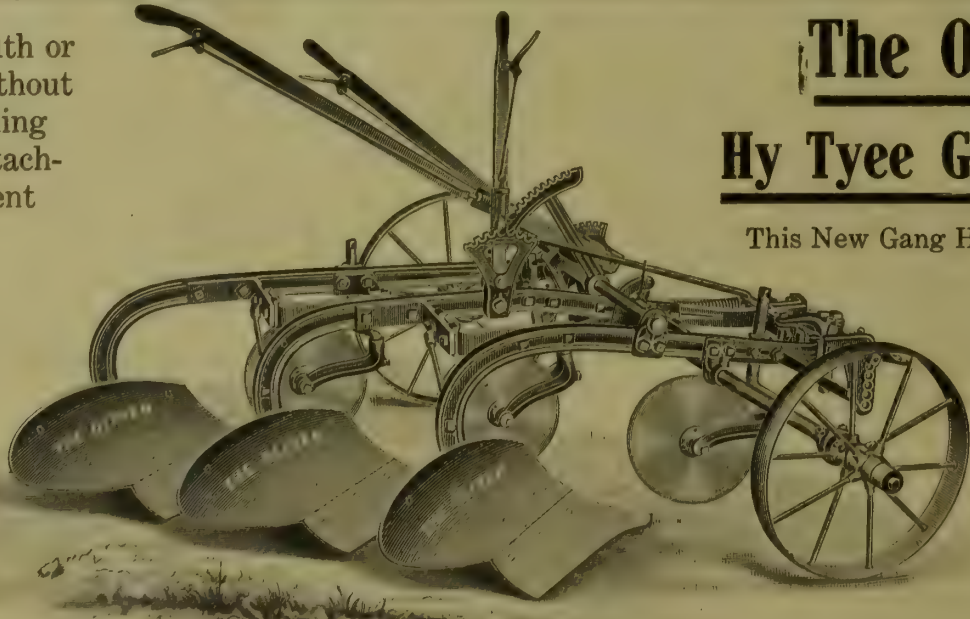
Thirty-four cows sold for \$2575; an average of \$75.15.

Sixteen bulls sold for \$1765; an average of \$110.

The entire fifty head sold for \$4340; an average of \$86.40.

The packing houses at Upland have been improved by the addition of a new system of fruit conveyers which delivers the fruit to packers with practically no injury.

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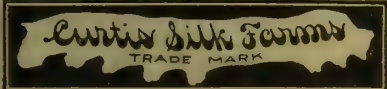
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Household Department

WHEN DADDY LIGHTS THE TREE.

We have our share of ups and downs,
Our cares like other folks;
The pocketbook is sometimes full,
We're sometimes nigh dead broke;
But once a year, at Christmas time,
Our hearth is bright to see;
The baby's hand just touches heaven
When Daddy lights the tree.

For weeks and weeks the little ones
Have lotted on this hour;
And mother she has planned for it
Since summer's sun and shower,
With here a nickel, there a dime,
Put by where none should see,
A loving hoard against the night
When Daddy lights the tree.

The tiny tapers glow like stars;
They mind us of the flame
That rifted once the steel-blue sky
The morn the Christ-child came.
The blessed angels sang to earth,
Above that fair country,
We think they sing above our hearth
When Daddy lights the tree.

The weest child in mother's arms
Laughs out and claps her hands;
The rest of us on tiptoe wait;
The grownup brother stands
Where he can reach the topmost branch,
Our Santa Claus to be,
In that sweet hour of breathless joy
When Daddy lights the tree.

Our grandpa says 'twas just as fine
In days when he was young;
For every Christmas ages through
The happy bells have rung.
And grandpa's head is growing gray,
But yet a boy is he,
As merry as the rest of us
When Daddy lights the tree.

'Tis love that makes the world go round

'Tis love that lightens toil;
'Tis love that lays up treasure which
Nor moth nor rust can spoil;
And love is in our humblest home,
In largesse full and free;
We are all very close to heaven
When Daddy lights the tree.

—Margaret Sangster.

THE ORPHANED TWINS' CHRISTMAS TREE.

MINNIE and Tom were twins; they were also orphans and lived with a farmer and his wife out on the Great Plains. These farmer folk had lived neighbors to the children's parents before the death of the latter.

Baker was the name of the farmer and his good wife who had opened their hearts and poor little home to the two bereaved orphans.

The fall just passed had been a sickly time for the "settlers," and the parents of Minnie and Tom had died of typhoid fever within a few days of each other, leaving their little ones almost destitute; and had it not been for the kindness of the neighbors, the lot of the little twins would have been a sorry one, indeed, for they must have become "county charges" and been sent to the county poorhouse.

The Bakers were young married people who had come from the East to win a home for themselves on the wild, new prairies, and until Minnie and Tom became inmates of their home it had been a childless place. But this had been no cause for mourning, rather a reason for rejoicing, for they felt too poor in the world's goods to long for children to share their poverty and the accompanying hardships.

"When we get our land deeded, good crops growing, a new house, and the place well stocked—then we will pray our Creator to send some little ones to make our happiness complete," said Mrs. Baker one day when the subject of children was being discussed.

But providence had seen fit to send

a pair of seven-year-old tots to them long before the farm was theirs on a bit of legal paper, and when the meager two-room, sod-covered stone house was yet their only abode. To be sure there were a few comforts—in a small way—which the good, light hearted young couple made the most of. During the summer they had both worked with great energy, Mr. Baker cultivating the corn, cane and potato crops, while his wife looked after the garden, the chickens and cows. With butter and eggs she had almost kept up the running expenses of the house, bought feed for her milch cows till the corn was gathered and the hay and fodder cut and stacked; and while plenty did not abound, their thrift and economy kept them comfortably clad and fed, besides allowing them to begin laying away provision for the next year when their fields should be broader and more machinery would be needed to carry on the work.

And then it was they had found two homeless little ones knocking at their house and hearts for admittance.

The Bakers had talked the matter all over when the parents of Minnie and Tom became dangerously ill, with no possible chance of recovery. And they agreed that whatever the new responsibility and extra expense might be in taking the children they would willingly do the best in their power to make the orphans happy and try to fill, in a measure at least, the place left vacant by their parents.

Thus it came about that after the death of their parents Minnie and Tom found themselves installed as members in the Baker household. For weeks and weeks the two little sorrowing orphans grieved heart-brokenly over the loss of their loved mamma and papa, weeping against the breast of their new mother, who gently caressed them, telling them in a sympathetic voice, often choking with emotion, of that land—all glorious—where some day they would go to be received into the arms of those two dear ones who would await their coming. Thus lovingly she lightened the burden on their hearts, and as the fall slipped into winter, and the days glided swiftly toward Christmas, the children began to take an interest in the new life about them.

Until the very cold weather of December set in, Minnie and Tom had gone regularly to the district school, some two miles distant from their home, but with the first blizzards from the frozen north they were obliged to do their lessons at home with the ever willing assistance of their foster mother.

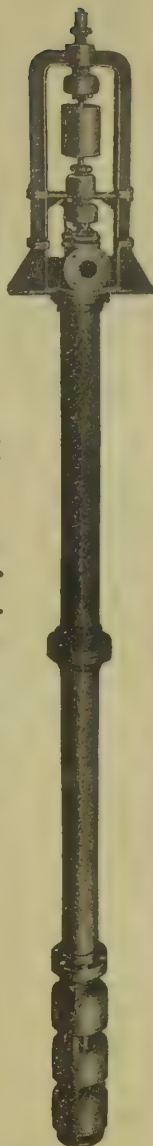
One evening after the children had been put to bed in the "front room" (which served as bedroom for them all) the Bakers sat chatting awhile by the kitchen fire. Mr. Baker had been reading aloud from the county seat weekly newspaper, and, as that sheet was exploiting the coming of Christmas by way of big-line advertisements, inserted by the merchants of the town, Mr. Baker was set thinking.

"Say, Mattie," he remarked, after a few minutes' meditation, "do you s'pose we could do something for Min and Tom Christmas? It does seem tough for the little fellows to have no Santa Claus, sure it does."

"Oh, I've been thinking of that for

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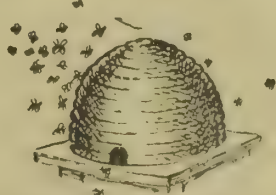
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The Safe Deposit Departments will temporarily remain in their present locations, owing to unavoidable delays in completing construction of the new vaults.

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some time," answered Mrs. Baker, "and, knowing we have so little money to spend even for real necessities—for that note of \$60 falls due New Year, you know—that I've conceived an idea to give them a little surprise with still smaller outlay."

"What is your plan?" asked Mr. Baker laying aside the paper and poking up the fire.

"Well," replied his wife, "I've partly carried it out. I'll show you what I've done." She rose, and going to a corner where an old trunk stood under the wall cupboard, she lifted the lid and drew forth from its depths a huge bundle done up in an old apron. From this she extracted the large body of a rag doll, headless. Its feet were shod in red satin slippers, made evidently out of a bit of ribbon. Otherwise the doll was undressed. Holding the doll up for inspection, Mrs. Baker said: "I've made this at odd times on nice afternoons when the children were at play in the stable. I have yet to make the clothes, you notice; but I have the necessary material at hand. Do you remember that white swiss dress I wore the summer you first came to see me? Well, much of it is pretty good—the back breadths—and there is a vast plenty to fit dolly out fine. Then I've some red satin ribbon off an old hat which can be pressed and used for a sash and bows on the sleeves. I think I can scare up a bit of lace to go about the bodice—it doesn't matter if it is darned."

"But, Mattie, where's the thing's head?" asked Mr. Baker, taking the headless doll in his hands.

"Well, dear, I'm afraid we'll have to buy one," said Mrs. Baker, almost coaxingly. "I see they advertise big china heads at Jones' for 25 cents. When you go to town next Saturday you may get one, if you think it is not too extravagant," and Mrs. Baker looked inquiringly at her husband.

"No, that's all right," he answered her, assuringly. "If the little chaps were ours, you know, we'd do it in a minute, and it's nothing more'n right to do the same for these motherless things. Poor souls won't get much at the most. Now, what have you got for Tom?"

"I've a pair of blue wool mittens almost done," answered Mrs. Baker, lifting a bunch of color from her work basket. "And I mean to knit him a toboggan cap in bright red—one with a tossel over the ear like the boys in town wear."

"But those fixin's are not playthings," ventured Mr. Baker. "Now, the doll for Minnie is all O. K.; but Tom must have a toy, too."

"I've not finished telling my plan yet," laughed Mrs. Baker. "Now, I know you are clever with the carpenter's tools, and I want you to make a nice sled for him to coast with. You may have that big goods box I use in the dugout as a table. I can make out with something else down there. There is enough lumber in that to make a great sled, and both the children can have fine sport coasting down the hill toward the chicken house. I half expect you and I will take a hand occasionally when the snow is good. And since we have decided to spend a quarter on Minnie, I think we must put out the same amount on Tom. There are very nice bugles advertised for 25 cents in town. Suppose we get one for him—the noise

of a horn will just fill the bill with a boy. Along with the other things I can fix up here at home the doll and bugle horn will be quite enough, considering our circumstances—unless—we might afford a dime's worth of mixed candy and nuts."

"Yep; we'll go the extra dime," agreed Mr. Baker, "if we have to make old man Jamenson throw it off that \$60 note. The old fellow wouldn't miss \$10 on these children if he could be induced to see it that way. I bet he's worth \$5000, if he's worth a cent."

"Can you get at the sled tomorrow?" asked Mrs. Baker. "You must do it in the stable so the children won't see you."

"Yes, for I can't do much else this cold weather," replied Mr. Baker. "And, come to think of it, I wouldn't wonder if I can get some red paint from old Jamenson to paint the sled with. He had a lot to give his sulky plow a coat. If he's any left I'm sure he'd be willing to donate it to a good cause."

"Oh, that'll be fine!" exclaimed Mrs. Baker, her face beaming with pleasure as their plans developed.

So the days before Christmas wore away, and both the Bakers performed many little tasks that were kept a secret from the children. Much of their work was done after the little ones had gone to bed at night, and it was truly amusing to see them go cautiously about the kitchen on tiptoe, speaking in whispers, that they might not waken the sleepers for whom they were busy preparing a surprise.

The accomplishment of one thing would lead to the making of something else. After Mr. Baker had completed the sled he found that he had plenty of lumber left over to make a little tea table, at which the children might have their "play dinners." Then, after the table was done, there must be dishes to set it with, and Mrs. Baker brought from a packing box—that had never till now been opened since coming west—several dear little bits of china and glass that had been given her in her own childhood. There were several tiny plates, with pictures of birds and flowers on them; two dainty teacups, decorated with gold bands and handles, with saucers to match; a pretty cream mug, a sugar bowl that looked like a lily on bits of feet, a wine glass and a dear, fat little teapot, around whose plump body ran a spray of roses. A red and white checked napkin with mottled red and white fringe, answered for a tablecloth, and when the table was spread—just to try the effect—Mr. Baker looked at it approvingly, and said: "It's out of sight, Mattie Say, it don't take so all-fired much money to do nice little things when one's willing to work, now, does it?" And then he put the finishing coat of red paint (which, by the way, old man Jamenson had left on hand, and which he gladly let his neighbor have) on the sled, which he hung up on the wall behind the cook stove to dry over night. "Now," he added, turning to his wife, "after I got the doll's head, the bugle and candy, everything will be about ready, eh?"

Concluded Next Week

Pat—Do yez ever git dispondint, Molke?

Mike—Only when Ol'm feeling "blue." Ol' always feel good as long as Ol'm feeling folne, he gobs!—Puck.

RECIPES.

Roast Goose.

Stuff the goose with a dressing made as follows: Potatoes boiled, peeled, and mashed fine and light; 1 tablespoon salt; 1 teaspoon pepper; 1 teaspoon sage; 2 tablespoons of onion juice; 2 of butter. Truss, and dredge well with salt, pepper and flour. Roast before the fire, (if weighing eight pounds), one and one-half hours; or in the oven, one and one-quarter hours. Make gravy as for turkey. No butter is required for goose, it is so fat. Serve with apple sauce.

Roast Duck.

Ducks to be good must be cooked rare; for this reason it is best not to stuff. If you do stuff them, use the goose dressing, and have it very hot. The better way is to cut an onion in two, and put in the body of the bird, then truss, and dredge with salt, pepper and flour, and roast, if before the fire, forty minutes, if in the oven, thirty minutes. The fire must be very hot and the oven a very quick one. Serve with currant jelly, and a sauce made the same as for turkey.

Roast Pig.

Select a pig from four to six weeks old. Clean it thoroughly, using a teaspoon of soda in the water you wash the inside with. Wipe dry and stuff with a dressing made of bread crumbs highly seasoned with butter, sage, salt and pepper. Sew it up. Skewer the fore legs forward, and the hind legs backward. Rub it over with butter, and sprinkle with salt, pepper and flour. Put it in a dripping pan with a little water and bake about three hours, basting often. It is not necessary to have the oven very hot at first; be careful not to let it burn. When done, place it on a platter; garnish with parsley and put an apple or small ear of corn in its mouth.

Roast Spare Ribs.

Trim off the rough ends; crack the ribs across the middle, rub with salt, sprinkle with pepper, fold over, stuff with plain turkey dressing. Sew up tightly, put in dripping pan with a pint of water. Baste frequently, turning once, so that both sides may be of a rich brown.

Beets.

Be careful not to prick, or cut the skin before cooking, as they will then lose their color. Put them into boiling water, and boil until tender. If they are served hot, season them with butter, pepper and salt; if cold, slice and pour vinegar over them, or cut in dice, and mix with other cold vegetables for a salad.

Baked Onions.

Onion; butter; bread crumbs; salt; pepper; sweet cream. Boil the onions in salted water until tender. Butter a deep baking dish; fill alternately with a layer of bread crumbs sprinkled with pepper, salt and bits of butter, then a layer of sliced onions, until full, having bread crumbs on top. Cover with sweet cream. Bake half an hour, or until brown. Serve hot in the same dish.

Mashed Potatoes.

Six medium-sized potatoes; 1 tablespoon butter; a little hot milk; salt and pepper to taste. Bake the potatoes; when done, cut off a small piece each end, with a spoon, remove the skin, which mash and heat well and season with hot milk; add the butter and season with salt and pepper to taste. Fill the skins with this mixture and brush with melted butter. Bake in the oven.

Baked Hubbard Squash.

Cut in pieces, scrape out the seeds and soft part, bake from one to one and one-half hours, according to the thickness of the squash. To be eaten with butter and salt like baked potatoes.

Baked Diced Turnips.

Turnips, cooked in salted water; cream gravy; cracker crumbs. Cut the turnips into dice, and cook in the salted water; when done, put into a colander and douse with cold water; then place in a baking dish and pour the cream gravy over them, cover with cracker crumbs and bake until brown.

Baked Tomatoes.

Tomatoes; butter; salt; pepper. Cut a piece the size of a quarter dollar from the stem end of large smooth tomatoes, put in each a salt spoon of salt, half as much pepper, butter the size of a nutmeg; set them in a pan and bake nearly an hour. Particularly good with lamb or mutton chops.

Cheese Salad.

Sprinkle grated cheese over crisp lettuce and serve with either French or cooked mayonnaise dressing.

Lettuce Salad.

Dressing. Half cup of vinegar; 1/2 cup sweet cream; a tablespoon sugar; a pinch each of salt and pepper. Wash the lettuce, dry with a towel; place in salad bowl, and pour the dressing over it.

Tomato Salad.

Use tomatoes the size of an egg. Remove the skins and a little pulp, from the stem end; turn them to drain and keep them on ice one hour, then fill with mayonnaise. Serve with lettuce and garnish with hard-boiled eggs and green peppers; cut as fine as possible.

The lettuce should be washed, and kept on ice several hours, being careful to shake out all the water.

Mince Meat—An English Recipe.
One pound finely chopped kidney suet; 2 pounds raisins, chooped fine; 3 pounds currants, cleaned and dried; 3 pounds apples, chopped fine; 1 pound candied peel chopped fine; pound sugar; rinds of 3 lemons, grated; 1 small teaspoon salt; 1/2 ounce mixed spice; 1 pound lean meat. Mince the lean meat very fine. Mix all well together.

Squash Pie.

Two heaping tablespoons squash; 1/2 coffee cup sugar, granulated; 1 egg; scant 1/2 teaspoon level full of cinnamon; same of ginger; pinch of salt; 1 large teacup rich milk.
The Hubbard squash is best and should be steamed. Mash it through a colander. Beat the egg thoroughly, then add the sugar, salt, squash, cinnamon and ginger, and beat well together, then add the milk. Stir it in well. Bake with one crust. This makes one pie.

Lemon Pie.

Three-quarters cup sugar; 2-3 cup water; 1 lemon; 3 eggs; 1 tablespoon butter; 1 tablespoon flour. Cream butter and sugar; add flour, yolks 3 eggs—well beaten, water, 1 lemon, and piece of rind. Beat the whites of the eggs very light, with a tablespoon of sugar to each egg, for a meringue; flavor this with lemon juice. Spread it over the pie when baked, and put it back in the oven until it is slightly browned. Use half the grated rind and all the juice of the lemon.

English Plum Pudding.

Twelve eggs, well beaten; 2 pounds beef suet, chopped fine; 2 pounds bread crumbs; 1 1-2 pounds flour; a pound stoned raisins; 2 pounds currants; 1 pound Sultana raisins; 1 pound sugar; 1-2 pound candied peel, 1 nutmeg and 1-2 ounce mixed spices; rind of 2 lemons grated; 1 small teaspoon salt.
Mix well together and add the eggs. If not moist enough, add a little molasses and water. Put into buttered molds, or tie up safely in one large ball and put into boiling water. This will make 3 good-sized puddings.

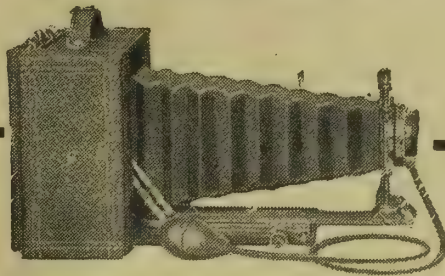
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FOR SALE—JERUSALUM ARTICHOKES—The great winter hog feed. Address FANCHER CREEK NURSERIES, Fresno, California.

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WANTED—CUTTINGS OF THE FOLLOW-ing for grafting purposes: Rupestris St. George, Riparia x Rupestris 3306, Riparia x Rupestris 3309, Riparia x Rupestris 106-8 and Mourvedre x Rupestris 1202. Address FANCHER CREEK NURSERIES, Fresno, California.

SITUATION WANTED.

WANTED—SITUATION BY RELIABLE IN-dustry, young man with California experience in vineyard, orchard and general farm work. Address, "Vineyardist," care of "Cultivator," Los Angeles.

DUCKS.

INDIAN RUNNER DUCKS—A FEW FINE breeders for sale now laying; extra drakes. Eggs, \$1.00 per 13. Black Langshans, young stock for sale. CLYDE J. MOSS, Corona, Riverside Co., Cal.

MISCELLANEOUS.

LOCATION WANTED—IN SOME GROW-ing western town of 4000 or 5000 population, where I can install a telephone and electric lighting system. Am willing to invest considerable money in a good, growing town. Have been in the business ten years. If you are interested, or know of some one that is interested, or know of a good location, please write me. N. E. STADLEY, Shelburn, Indiana.

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ESSAYS ON POULTRY CULTURE.

In another column will be found a proposition for a contest for the best essays on poultry culture. The Success Incubator Co., of White Salmon, Washington, offer 100 premiums for the best of these essays. Every contestant is promised one special premium in any case, and the larger prizes go to the winners.

The judging is to be based on the statement of facts and experience, rather than on literary merit. It sometimes happens that those whose experience is the most valuable cannot express as well as others, but those who can make known those experiences are promised just as good a show as the more literary.

A letter to the company will secure further particulars.

POULTRY FEEDING FOR PROFIT.

The Coulson Co. of Petaluma has issued a fine little booklet of 44 pages, a catalogue and price list of the poultry goods and poultry supplies. Like all printed matter from the firm it is full of illustrations and has a whole lot of interesting matter in the text.

Of course, the major feature is the goods for sale at attractive prices, but much of interest to all in the book makes it well worth the writing for.

Geo. A. Parkyns, president and general manager of the Imperial Valley Improvement Co., has resigned from its management and has been succeeded by Senator Blair and J. S. Giles.

Annheim shipped five carloads of sweet spuds.

The Produce Markets

Los Angeles Markets

LOS ANGELES, Dec. 18, 1907.

Butter.

Still at 67½ for extra creamery butter and with general quotations in a firmer condition than last week, is the week's report. Some even maintain that another advance may be made. Other grades remain as last week.

Creamery extra per roll... 67½
Firsts... 57½@60
Seconds... 60
Dairy... 45
Cooking... 45@47
Eastern... 62½@65
"Butterine"... 15@22½

Cheese.

Cal Young America per lb... 20½
Hand... 20½
California Anchor... 19
Northern fresh... 17½@18
Eastern singles... 19
Imported Swiss... 32
Tulare flats... 18½
Domestic Swiss... 21@22
Oregon... 18

Eggs and Poultry.

Eggs have declined heavily during the week and are now quoted for local candled 38@40 or nearly 6 cents lower. The slump is caused by the throwing on the market of vast quantities of storage eggs. The cold storage operators are loaded with eggs that must be disposed of within the next month and the daily consumption of eggs at present prices is not great enough to move more than half of the cold storage holdings. By lowering the price of fresh eggs to nearer a par with Eastern selected, there will be a larger consumption of eggs and the retailer unable to meet this increased demand with strictly fresh stock will increase his supply of storage.

Eggs local candled... 38@40
Eggs case count... 36
Fresh Eastern... 25@30

Hens per lb... 12
Young roosters per lb... 14
Fryers... 14
Broilers per lb... 19
Old roosters... 7
Turkeys... 15
Geese... 12
Ducks... 11
Squabs... 1.75@2.00

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 lbs... 6½
Prime steers... 4½
Heifers... 4
Calves per lb... 4½@5
Sheep ewes per head... 4.75
Lambs per head... 3.75@4.25
Wethers... 5.50

Potatoes.

Highlands... 1.15@1.35
Early Rose... 1.75@2.00
Salinas... 1.85@1.90
Colorado... 1.75
Sweet potatoes per sack... 1.80@2.00
Oregons... 1.35@1.50
Idahos... 1.50

Onions.

Silver skins... 2.50
Yellow Danvers... 2.30@2.50
Australian Browns... 2.50
Globe... 2.50@2.75
Oregons... 2.50@2.60
Colorado... 2.30@2.35
Garlic... 2@2½

Vegetables.

Artichokes per doz... 1.15
Beets per doz... 30@35
Bell peppers per box... 40@45
Beans Lima per lb... 4@5
Beans green... 5@6
Brussels sprouts per lb... 7
Cabbage sack... 25@35
Celery per crate... 1.50
Chili peppers green lb... 2@2½
Cucumbers per box... 30@50
Pickling... 75
Corn per box... 75@85
Cauliflower... 1.25
Carrots per doz... 30@40
Eggplant per lb... 4½@5
Green onions doz bunches... 10@30
Hubbard squash per lb... 1@1½
Lettuce per crate... 25@50
Pie Pumpkins... 1½
Peas sugar per lb... 2½@4
Okra per lb... 3@6
Parsley... 30
Parsnips... 35@40
Rhubarb per box... 75
Radishes per doz... 15@20
Salsify... 30
Spinach per doz... 10@25
Squash crate... 50
Turnips doz bunches... 40
Tomatoes per box... 75@1.50

Citrus Fruits.

New oranges... 1.85@2.00
Culls... 75@1.00
Grapefruit seedless... 2.50@3.00

Grapefruit seedlings... 1.75@2.00
Lemons fancy... 2.25
Lemons choice... 1.50@1.75

Fresh Fruits.

Bellefleurs... 1.90@2.00
Baldwins... 1.25@1.50
Pippins 4-tier... 1.50
Gravenstein... 1.50
Alexandria... 1.00@1.50
Cooking... 50@1.00
W W Pearmain... 1.75
Colorado Jonathans... 3.50
Casaba per crate... 2.00@2.50
Figs black per lb... 8@12
Figs white... 11@12
Guavas... 6@8
Grapes Morocco... 10@12
Malaga per lb... 10@12
Pears... 1.25
Winter Nellis per lb... 6
Peaches per box... 1.50@2.00
Pomegranates per lb... 7
Persimmons... 6@9
Quinces... 1.25
Raspberries... 15@18
Strawberries... 5@7

Dried Fruits.

Apricots... 17@21
Evap apples fy per lb... 10½
Figs loose... 4@6
Peaches... 12@13
Pears... 12½@13
Nectarines... 13@14
Prunes... 3½@5½
Plums... 11½@13

Beans, Dried

Lima beans declined during the past week. Wholesale quotations on the market now are:

Limas per ctl... 5.25@5.50
Pink No 1... 3.60@3.70
Lady Washington... 3.75@3.95
Small White... 3.75@3.85
Black eyes... 4.50@4.75
Garvanzas... 5.25@5.75
Lentils... 12@12½

Nuts.

Almonds per lb... 18@20
Peanuts Virginia... 8½@9
Peanuts California... 6@7½
Walnuts No. 1 S S... 15@16

Hay.

Barley No 1... 14.00@18.00
Barley No 2... 13.00@14.00
Alfalfa northern per ton... 15.00@17.00
Alfalfa new local... 15.00@17.00
Plain Oat No 1 new... 16.00@18.00
Wheat No 1... 18.00
Wheat No 2... 14.00

Grain.

Wholesale selling price f. o. b., Los Angeles.
Wheat new per ctl... 1.85
Wheat in 100-lb. sacks... 1.90
Barley... 1.50
Corn Eastern sacked... 1.80
White oats... 1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn... 1.85
Shorts... 1.51
Bran... 1.40
Oil cake meal... 2.50
Feed meal... 1.90
Rolled barley... 1.75

The Chas. H. Lilly Company have just published their 1908 catalogue of seeds and poultry supplies, and it certainly is a beautiful edition and one of the best achievements of its kind ever issued. Many people are calling it the Farmers' Guide for it contains full cultural directions and tables, as well as a general list of seeds and supplies. Each copy contains 112 pages of this valuable information, 16 colored photographs of specialties that are particularly suited for the Pacific Coast, and 293 other photographs of vegetables, flowers, grains, tools, incubators, brooders and poultry supplies. The 16 colored photographs are the most perfect in detail of anything ever yet printed in a seed catalogue. They are not exaggerated drawings, but actual scenes photographed by the Advertising Man, of specimens grown from Lilly's Seed while growing on the Pacific Coast. They were taken at random wherever he happened to be, while making his inquiries and researches. The description of the goods, too, is correct and complete. The division of the different goods into classification is also most accurate. All together, it is a most desirable Seed Catalogue and one that every farmer, fruit grower, horticulturist or poultryman should have on hand. The edition consists of 40,000 copies, a complete copy of which will be sent to any address on request.

San Francisco Markets

SAN FRANCISCO, Dec. 17, 1907.

Butter.

Butter recovered its former loss and is again at 25 for California extras. Market is fairly firm with no indication of an immediate change.

The current prices on dairy products in San Francisco are always from 2 to 3 cents higher than the rates given in the daily official list of the Wholesale Dairy Produce Exchange. The retail dealers in this city invariably pay an additional 2 cents per pound on butter and per dozen of eggs, and occasionally it is 3 cents. On cheese the increase is 1 cent per pound. By making these additions to the Dairy Exchange prices the producer in the country can always determine the actual prices ruling in this city. The quotations as prepared by the San Francisco Wholesale Dairy Exchange yesterday were as follows:

California extras per lb.	35
California firsts.....	31
California seconds.....	25
Eastern extras.....	27½
Storage Cal ex.....	27½

Cheese.

California young American fy.....	17
California flats fy.....	16
Eastern fy.....	18½
Oregon fancy.....	15½

Eggs and Poultry.

Eggs have shaded during the past week. Storage are coming out more freely, but at present quotation market is firm.

Fresh ranch eggs.....	44½
Eggs firsts per doz.....	40
Eggs second per doz.....	30
Eggs thirds.....	23
Storage Cal extra.....	28
Eastern selected.....	22½
Eastern firsts.....	19

The poultry market still unsettled with heavy arrivals of Eastern stock.

Hens per doz.....	4.50@6.00
Hens extra.....	6.00@7.00
Young roosters.....	6.00@7.00
Old roosters.....	4.00@4.50
Fryers per doz.....	4.50@5.00
Broilers per doz.....	4.00@4.50
Geese per pair.....	2.00@2.50
Ducks young.....	4.00@5.50
Turkeys per lb.....	.15@.16
Pigeons.....	1.00@1.25

Live Stock.

Steers No. 1.....	8@8½
Do second quality.....	7@7½
No. 1 cows and heifers.....	6½@7
Hogs 80 to 200 lbs.....	6@6½
Hogs 200 to 300 lbs.....	5½@6
Calves per lb.....	4½@5
Lambs spring.....	6@6½
Wethers No 1.....	5@5½
Ewes No 1.....	4½@5

Potatoes

The potato market is rather weak.

River whites.....	.60@.85
Oregon Burbanks.....	1.00@1.25
Early Rose.....	1.25@1.35
Salinas.....	1.60@1.70
Sweets.....	1.00@1.25

Vegetables.

Celery per crate.....	.75@1.00
Corn per sack.....	1.50@1.75
Cucumbers per box hothouse.....	1.00@1.50
Chili peppers per lb.....	.4
Bell peppers per box.....	.50@.75
Egg plant per lb.....	.15
Green peas per lb.....	.2@.5
Squash per box.....	1.00
Marrowfat squash per sack.....	.60@.75
Hubbard squash per sack.....	.60@.80
Rhubarb per box.....	1.25@1.75
Tomatoes local.....	1.00@2.00
String beans.....	.5@.7
Wax beans.....	.6
Barlic.....	.4@.6

Onions.

Onions Br Australian per ctl.....	2.25
Yellow.....	1.85@2.00
Red Australians.....	2.35
Oregon.....	2.25

Citrus Fruits.

New navels.....	1.25@2.00
Grapefruit seedless.....	2.50@3.25
Lemons.....	1.50@3.00
Limes.....	2.00@4.00

Fresh Fruits.

Newtons.....	1.75
Apples small stock.....	.40@.75
Pigs one layer.....	.50@1.00
Huckleberries.....	.12½
Pears winter Nellis.....	2.00@2.50
Pears cooking.....	1.00@1.50
Persimmons.....	.75@1.25
Pomegranates per box.....	1.00@2.50
Quinces per box.....	1.00@1.25
Raspberries per chest.....	10.00@12.00
Strawberries per chest.....	5.00@10.00

Dried Fruits.

Apples (evap.).....	10@10½
Apricots per lb new.....	.18@.21
Pigs white.....	.3½@.5
Nectarines.....	12½@15

Plums pitted.....	12@15
Prunes 4 sizes.....	4@5½
Peaches.....	10@13
Pears.....	7@13
Prunes 4 size bag basis.....	4½@5

Beans, Dried.

Limas.....	5.15@5.20
Pink.....	3.20@3.25
Small white.....	3.45@3.50
Large white.....	3.00@3.10
Lady Washington.....	3.40@3.50
Black eyes.....	4.00@4.25
Red kidneys.....	3.40@3.50
Bayo.....	3.15@3.25

Hops.

Hops have dropped a couple of cents during the week with market very weak.

Hops new future delivery per lb.....	4@8
Hops old fancy.....	2@3

Nuts.

Almonds new.....	16½@17½
Peanuts California.....	6½@7½
Walnuts.....	14@17

Honey

Clear white comb.....	16@17
Amber.....	12@15
Extracted.....	7½
Beeswax No 1 per lb.....	25@27

Hay.

Alfalfa local.....	12.00@14.00
Tame oat choice.....	16.00@18.00
Wild oat.....	12.00@14.00
Wheat choice.....	19.00@21.00

Grain.

Wheat No 1.....	1.67½@1.72½
Barley No 1.....	1.57½@1.60
Corn small yellow.....	1.50@1.55
Corn large yellow.....	1.50@1.55
Oats white.....	1.60@1.70
Oats red.....	1.75@1.90

Feed Stuff.

Bran per ton.....	28.00@30.00
Straw per bale.....	.75@.85
Feed cornmeal per ton.....	36.00@37.50
Cracked corn per ton.....	37.00@38.00
Rollod barley per ton.....	35.00@36.00
Oil cake meal per ton.....	38.50@40.00
Cocoanut cake, per ton.....	25.00@26.00
Middlings.....	30.00@32.50

Citrus Market

LOS ANGELES, Dec. 18, 1907.

The orange market is much stronger than a few days since and the promise is for good returns for the holiday fruit. The fruit has been of exceptional quality and has found a ready sale. This is, doubtless, in part due to the bettering of the money market, which has occurred.

Lemons are moving well and fair returns received for them.

Total shipments to date, 1709 cars, of which 474 are lemons. To same date last year 864 cars, of which 281 were lemons.

NEW YORK, Dec. 16.—Twenty-three cars of navels, five cars of lemons and one car seedlings were sold. One car of Arizona navels was sold also. There is a good demand for well colored navels, but the market is weak on off-colored stock. Lemons are steady. Weather cool, cloudy.

NAVELS—	Avg.
A Brand xfy E Highland C Asso'n	1.85
Brand xc Highland C Asso'n	1.60
Gold Buckle xfy Red High Ft Ex	2.30
Golden State fy TCC Ft Ex	2.15
Sunset ch Lemoncove C Ass'n	2.05
Forget-me-not fy TCC Ft Ex	2.45
Pocahontas fy TCC Ft Ex	2.15
Sentinel fy TCC Ft Ex	1.95

LEMONS—	
Bear fy OK Ft Ex	2.55
Pride of Corona xfy QC Ex	2.30
Independent xfy Cleghorn Bro's	2.70
Independent ch Cleghorn Bro's	2.15
Artillery xc California C U	1.90
Squirrel fy AHF Ex	2.45
Corona Beauty xc QC Ex	2.00
Independent o r Cleghorn Bro's	2.30
Poinsetta fy California C U	2.00
Arizona navels—Boxes, \$3.75; halves,	\$2.95.

BOSTON, Dec. 16.—Thirteen cars were sold. It is snowing. The market is doing better. Sixteen cars are on the track.

NAVELS—	Avg.
Golden Flower xfy Red G O Ass'n	2.70
Golden Gate xc Red G O Ass'n	2.50
Forget-me-not fy TC Ft Ex	2.35
Badger xfy Cal C U Tulare	1.80
Bridal Vell.....	1.80
Sentinel fy TCC Ft Ex	2.55
Pine Cone xfy SB Ft Ex	2.35

LEMONS—	
Hale fy California C U	2.05
Infantry ch California C U	1.50

PHILADELPHIA, Dec. 16.—Seven cars of navels and three of lemons were sold. Weather cool. The market is firm on good stock. Four thousand boxes of Florida oranges were sold. The market is firm on good fruit.

Sentinel fy TCC F Ex.....	2.25
Sphinx ch TCC Ft Ex.....	2.05
LEMONS—	
Flower fy Grs' Ft Company.....	2.55
Visalia fy TCC Ft Ex.....	2.50
Coyote ch OK Ft Ex.....	2.15
Lemoncove ch TCC Ft Ex.....	2.20

CINCINNATI, Dec. 16.—The weather is cold. The market is steady. Four cars are on the track. Florida brights sold at \$2.30 to \$2.80; russets, \$2.25 to \$2.75.

NAVELS—	Ave.
Pet xc SA Ft Ex.....	2.25

LEMONS—	
Visalia fy TCC Ft Ex.....	2.45
Lemoncove ch TCC Ft Ex.....	2.20

ST. LOUIS, Dec. 16.—The market is steady. The weather is favorable. Fifteen cars were sold. Nine are on the track.

NAVELS—	
Ben Hur xc RH Ft Ex Red.....	2.50
Newsboy st RH Ft Ex Red.....	2.45
O. I. C. ch QC Ft Ex Corona.....	2.00
Sunset QC Ft Ex Corona.....	2.15

PITTSBURG, Dec. 16.—The market is steady. The weather is cold.

NAVELS—	
Bear and Eagle fy Lindsay Cit.	2.10
Marguerite xc Cal Cit U.....	1.60
Navajo st AH Ft Ex.....	2.05
Tulip xc TC Ft Ex Porter.....	2.35
Mountain Lion fy F H Speich.....	2.20
Mariposa fy Cal Cit U.....	1.75
Lincoln xc A H Ft Ex.....	2.25
Spanish Girl st AH Ft Ex Blanc	1.95
Navajo (navalon) st AH Ft Ex	2.45
Stork xc SA Ft Ex Clarem.....	2.20
Grayhound ch SA Ft Ex Clarem	2.15

LEMONS—	
Airship xc VC Ft Ex Chula Vis	2.15

CLEVELAND, Dec. 16.—The weather is favorable. The market is steady on navels; weak on lemons. Eight cars were sold.

NAVELS—	
Sequoia fy ST Ft Ex Fuller.....	2.45
Manzanita ch ST Ft Ex Fuller.....	2.25
Bear and Eagle fy Lindsay Cit As	1.75
Squirrel fy AH Ft Ex C Blanc.....	1.95
Squirrel fy AH Ft Ex C Blanc.....	2.10

LEMONS—	
Topaz xc Cal Cit U.....	1.35
Sunrise st Cal Cit U.....	1.25
Mountain Lion fy F H Speich Co	2.25

SCIENCE AND FARMING.

One of the many important facts in modern farm science most worth the attention of farmers who think, is the new system of feeding live stock. Present ideas which have grown from and out of old-time methods within comparatively recent years, put the whole feeding question on a truly scientific basis. The proportion and composition of foods is fully explained by agricultural science and wise breeders and feeders pay sufficient attention to the subject to reap great benefit from it.

Facts upon which the entire structure of the cattle feeding business rests are so well attested that there is no gainsaying them, and first and foremost in actual importance is the tonic idea.

It teaches one common sense principle—no animal under the continued strain of heavy feeding can make satisfactory growth or production without the digestive apparatus is strengthened to meet such strain.

To attempt to bring a fine bunch of thrifty steers up to the proper selling weight, or to get a large average production of milk from a herd of cows, leaving nature to settle alone the constant over-drafts made on animal digestion by big, daily rations of rich foods, is simply to upset the very end in view.

If fattening cattle and cows in milk were always at liberty to select what instinct tells them is best or necessary, there would, of course, be no need of the tonic. But here the difficulty arises.

Choose or select for must eat what the and besides endure a for weeks and months. der that an overtaxed organism breaks under

Give your cattle a tonic—something to strengthen digestion—and growth will be continuous because there can be no interruption caused by indiges-

tion, loss of appetite or complications of a more serious nature.

Another great advantage in the tonic idea is its economy. Cattle receiving it, because of greater appetite, eat more rough fodder and thus reduce feed bills.

Besides, it is a well-established fact that there is great saving of nutriment where the tonic is given, which would otherwise enrich the manure heap.

Without going further, then, into details, this one fact stands out above everything else in the new farm science—a "food tonic" is a necessity.

Eminent medical writers, such as Professors Winslow, Quitman and Finley Dun, tell us certain elements are always beneficial—bitter tonics, which aid and strengthen digestion, iron, well-known as a blood builder, and nitrates, which act as cleansing agents to remove poisonous matter from the animal system. These are the ingredients found in the tonic and healthy growth, production and condition are sure to follow in cattle, horses, sheep or swine when these elements are given.

A JUST AMENDMENT.

At this session of Congress there will doubtless be a flood of proposed amendments to the Interstate Commerce Law. One which, it seems to us, has a large amount of merit is aimed to prevent any sudden change in interstate freight rates without first giving the shipper an opportunity to be heard. Under the present procedure, railroad companies simply file their tariffs, which become effective in thirty days. If the shippers feel aggrieved, they file a complaint with the Interstate Commerce Commission and the courts. In Canada all freight tariffs must be approved before becoming effective. and that seems to be much the better method, for in this country the delays amount to almost a denial of justice. In some cases fifteen months have elapsed after the complaint has been filed before a decision has been rendered. During all this long period shippers must suffer. When a rate has been in effect for several years, the railroads cannot suffer seriously by its continuance pending investigation. It seems to us there can be no reasonable objection to the passage of the proposed amendment.

JAMESTOWN EXPOSITION AWARDS.

Announcement has just been made by the Awarding Jury of the Jamestown Exposition that the International Harvester Company of America has been awarded several medals and diplomas. This company was awarded a diploma of a bronze medal for the installation of their exhibits in the States Exhibit Palace. Their exhibit included the display of modern farm implements and harvesting machines. This company was awarded the diploma of a gold medal for their auto buggy, hay tedder, manure spreader, feed mill, corn sheller, New Bettendorf steel wagon and reversible disc harrow, and a silver medal for gasoline engines and cream harvesters.

The awarding of the above medals to the International line is conclusive evidence of the general excellence of their product, and indicates that the standard of merit which has characterized their product in the past is being faithfully maintained. Those who have visited this exhibit have spoken very well indeed of its general excellence.

A BEAUTIFUL CATALOGUE.

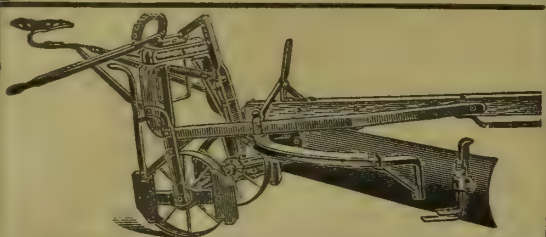
A beautiful 36-page catalogue is just received from the Armstrong Nurseries, located at Ontario. The envelope and cover of the booklet is a brilliant red, and the contents between the covers is so instructively put together that we believe it, too, will be read by a great many interested people. With the text is a large number beautiful engravings of various trees, fruits, roses and other flowers. The rose is given more space than any other one department, although the orange and many deciduous fruits are particularly described. The engravings of ornamental trees are instructive.

The One-Man Road Machine

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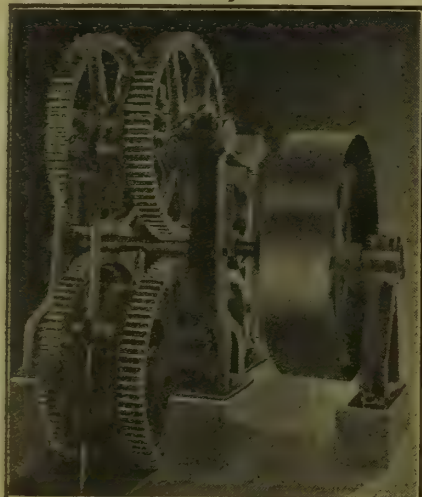
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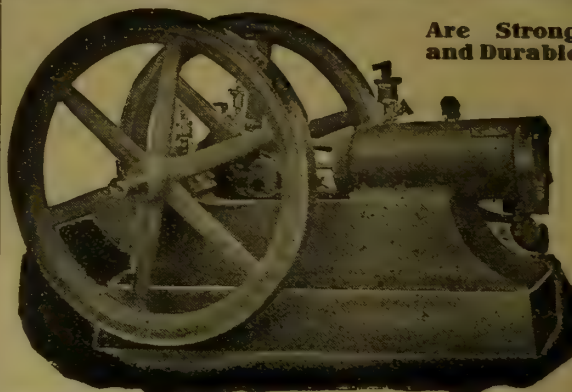
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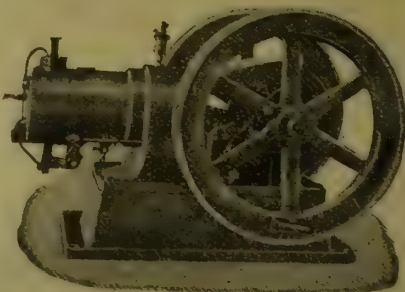
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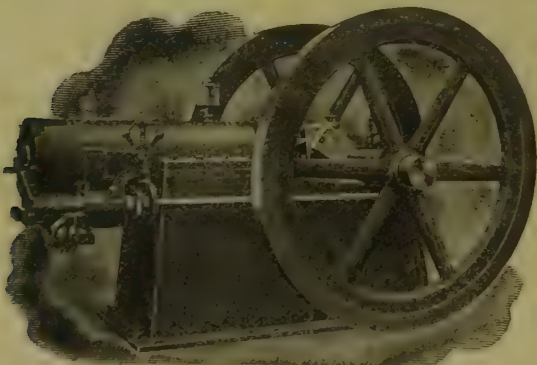
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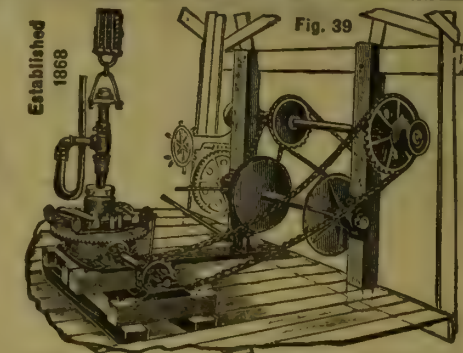
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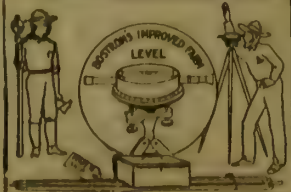
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California Cultivator

Los Angeles December 26, 1907 San Francisco

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A Big Well of Riverside
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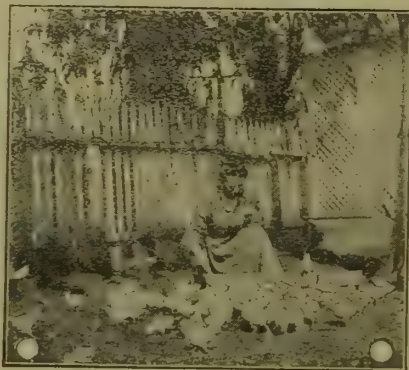


[F wells and underground supplies of water are to be preserved, forestry should be encouraged. On next page is an article by State Forester Lull and while the article relates more particularly to forestry for lumber purposes, the benefit to irrigation will be none the less pronounced. Every effort should be made to protect these water sheds. On this point Mr. Lull says:

"Then there is the fire problem, rendered so vast by the extreme drought of our summers. Fortunately we have good laws to punish those who are careless with fires, and the existence of over 600

voluntary fire wardens in the State proves the public is vitally interested in their enforcement. Gradually we are learning to think twice before starting fires, though old customs sometimes prevail. Thanks to the efforts of the fire wardens the Board of Forestry has justified its existence many times over by its activities under the laws relating to forest fires. And it will continue to do so until the belief in forestry will be so strong in the State that a popular demand will come for the establishment of a college of forestry at the University of California. This action should be taken, and I believe it will be in the not distant future."

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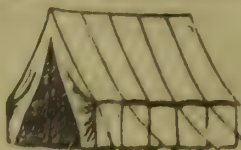
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California Cultivator

Vol. XXIX—No. 26 Los Angeles, California, Thursday, December 26, 1907 Subscription \$1 a Year

Forestry Necessary to Advancement

A Paper by G. B. Lull, State Forester, Read
at the Recent Farmers' Institute at Davisville

FORESTRY has been defined as the art of producing wood crops. This is not the most comprehensive definition which could be given, yet it answers all practical purposes. As the agriculturist is engaged in the business of producing food crops, so the forester is engaged in the business of producing wood crops, and both are carrying on their art for the ultimate purpose of producing a revenue.

Forestry has been practiced in the United States since July 1, 1887, when the Division of Forestry was created in the Department of Agriculture. Like most other lines of activity it came to meet a need, long foreseen by wise men throughout the country. Thus, as early as 1799 the Federal government recognized by legislation the need of preserving for future use timber suitable for the navy. In 1817 the former Act was renewed and 19,000 acres were reserved for live oak and cedar production on Commissioners, Cypress and Six islands in Louisiana. In 1828 another appropriation of \$10,000 was made and some lands were purchased on Santa Rosa Sound, where during a few years an attempt at cultivation, transplanting and pruning was made. In March 1831, provision was made for the punishment of persons cutting or destroying any live oak, red cedar or other trees growing on any lands of the United States, by a fine of not less than thrice the value of the timber cut and corresponding imprisonment.

It will be noted that no general conception of a need of a forest policy underlay these attempts to secure sufficient material for a special purpose; material of a kind which was not plentiful and was then believed a continued necessity for the building of war ships.

We can now smile at the concern expressed by early writers with regard to the threatened exhaustion of forest supplies. The extent of our forest domain was then entirely unknown, and in the absence of railway communication the location of supplies near the centers of civilization was of more moment. Logging then was carried on only along the coast and the eastern river courses. Small country mills sawed to order for home consumption or sent material to the mouths of the rivers to be carried by vessels to home and foreign markets. The mills were run in the manner of country grist-mills, often in connection with them. This petty method of doing business lasted until the middle of this century, as is evidenced by the census of 1840, which reports 31,560 mills with an average product of about \$400. But note the change. In 1870 the product per mill was valued at \$6500 and in 1890 it had become \$19,000.

It would be difficult to set a date or mark an event from which the changes in the methods of lumber industry, which is now such a stupendous factor in forest decimation, might be reckoned. It came as gradually or as fast as the railway systems expanded and made accessible the vast supplies of the West, while the supplies of the East were being exhausted.

Especially after the war settlements of the West grew as if by magic; the railroad mileage more than doubled in the decade from 1865 to 1875, and with it the lumber industry developed by rapid strides into its modern methods and volume. In 1865 the State of New York still furnished more lumber than any other State, now it supplies only insignificant amounts.

In 1868 the golden age of lumbering had arrived in Michigan; in 1871 rafts filled the Wisconsin; in 1875 Eau Claire had 30, Marathon 30 and Fond du Lac 20 sawmills, now all gone; and mills at La Crosse, which were cutting millions of feet annually are now closed.

No wonder that those observing this rapid decimation of our forest supplies and the incredible wastefulness and additional destruction by fire, with no attention to the aftergrowth, begun to sound the note of alarm. Besides the writings in the daily press and other non-official publications, we find the reports of the Department of Agriculture more and more frequently calling attention to the subject.

In the report issued by the Patent Office as early as 1849, we find this significant language in a discussion of the influence of forests on waterflow and their rapid destruction:

"The waste of valuable timber in the United States, to say nothing of firewood, will hardly begin to be appreciated until our population reaches 50,000,000. Then the folly and short-sightedness of this age will meet with a degree of censure and reproach not pleasant to contemplate."

In 1865 the Rev. Frederick Starr discussed fully and forcibly the "American forests, their destruction and preservation" in which, with truly prophetic vision, he says:

"It is feared it will be long, perhaps a full century, before the results at which we ought to aim as a nation will be realized by our whole country; namely, that we should raise an adequate supply of wood and timber for all our wants. The evils which are anticipated will probably increase upon us for thirty years to come with tenfold the rapidity with which restoring or ameliorating measures shall be adopted."

And further:

"Like a cloud no bigger than a man's hand just rising from the sea, an awakening interest begins to come in sight on this subject, which is a question of political economy will place the interests of cotton, wool, coal, iron, meat and even grain beneath its feet. Some of these, according to the demand, can be produced in a few days, others in a few months or in a few years, but timber in not less than one generation. The nation has slept because the gnawing of want has not awakened her. She has had plenty and to spare, but within thirty years she will be conscious that not only individual want is present, but that it comes to each from permanent national famine of wood."

These and many other urgent writers had their influence in educating a large number to a conception and consideration of the importance of this subject, so that when, in 1893 the committee on forestry of the American Association for the Advancement of Science was formed and presented its memorial to Congress, there existed already an intelligent audience and, although a considerable amount of lethargy and lack of interest was exhibited, Congress could be persuaded, in 1876, to establish the agency in the United States Department of Agriculture out of which grew the Division of Forestry, already mentioned.

Then was presented the spectacle of a nation in need of foresters, possessed of a forestry division and ready for the practice of the forestry art, which had no foresters of her own. The Eastern universities were quick to respond, however, and during the ensuing years Cornell, Yale, Harvard

and Michigan universities and many of less prominence instituted forestry courses. On the graduation of the first American foresters the field of investigations was broadened continuously as new recruits from the universities were added. Thus, the development of scientific forestry and forestry knowledge was extended in the United States as our Wolfville friend says, "like the grace of heaven through a camp meeting."

During this time, however, an anomalous condition existed in the government organization which greatly hampered the benefits of forestry practice. This was the administration of the forest reserves among its employees. Fortunately this condition was rectified by Congress in February 1904 when the forest reserves were transferred from the Department of the Interior to the Department of Agriculture where they were rightly placed in the hands of the Forest Service, as the former Division of Forestry is now called.

The administration of the reserves themselves was quickly placed on a basis of local management instead of the old-time, long-arm management from Washington, which had resulted in the growth of so much ill feeling among reserve users. Under the present methods of management, the just opposition to the reserves has practically disappeared, although we occasionally hear outbursts from selfish interests, as was the case at the recent Denver convention. The area of the reserves (now called National forests) has been steadily increased as the examination of new areas warranted their extension until now they cover a great portion of the mountain area in our Western States. In California alone their area exceeds 21,000,000 acres, occupying practically all the higher mountain slopes of the State.

With the firm establishment and successful development of Federal forestry, action for similar work began in many of the States. In California it began as early as 1885 when this State, preceding any other in this particular, passed an act establishing a State Board of Forestry. This board was not composed of trained foresters. It acted functionally as a Bureau of Education, issuing three reports, botanical in nature, before it was abolished in 1893.

The present State Board of Forestry was created in 1905 after a thorough examination of the forest resources of the State by the Federal Forest Service. The creating law provides that the State Forester shall be technically-trained and outlines work along the lines of forest management, forest replacement and forest protection.

The question has arisen—Why should California support a Board of Forestry when the Federal government is administering 20,000,000 acres of her forest domain? If for no other reason California can afford to support such a board simply to educate her people to the need of co-operating with the Federal officials in their efforts to safeguard their interests in navigation, irrigation, forest material, stock raising, etc.

But there are other more important functions for the State Board of Forestry.

Many thousands of acres of the best timber in the State is held by private parties who are administering their holdings for private gain regardless of public good. The existence of the Board of Forestry places within the reach of these owners technical knowledge as to how they can manage their properties without seriously curtailing their

Concluded on Page 625

Gold Medal Citrus Trees

Are fully described in our treatise of Citrus Culture, which is a trifle the best thing of its kind ever published. Contains about 50,000 words and 100 illustrations telling about oranges and lemons from the seed bed to the bearing orchard. Price 25 cents. Remember we are the largest producers of Citrus Trees in the world and stand ready to serve you with the finest nursery stock that can be grown. Correspondence invited.

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With the Citrus Growers

LEMON MEN'S CLUB.

THE Lemon Mens' Club met at the Chamber of Commerce in Los Angeles Nov. 30th and discussed crop prospects and latest developments in handling the product.

Coloring or curing lemons by confining in air-tight and ventilated rooms with carbon dioxide or burnt out air, had not proven to give definite results.

Mr. C. C. Teague said that while in New York city recently, he noticed that many consignments of imported lemons appeared to be of fine quality, but the pack was uneven, many different sizes being in a box. Though apparently of good quality, they did not bring the price of California lemons.

The members reported that there was promise of an increase in the crop of from 15 to 20 per cent over that of the present season, ranging from 10 to 25 per cent in different localities.

STORY OF THE ORANGE.

From the Salt Lake booklet mentioned last week, we note regarding the Washington navel:

While the introduction of the navel orange has been extensively written up, there undoubtedly will be many readers of this article who are not familiar with the case. The following data was furnished by the department wardens at Washington, D. C., and is of the data furnished by Mr. Saunders, the gardener:

James Hogg of New York stated in 1888 that in 1838 he left Brazil, where he had been a wealthy planter, and settled in Florida. Before leaving Brazil he secured several plants for introduction into Florida, among which were several navel orange trees. In the Seminole war the entire collection was destroyed by the U. S. troops for the reason that the owner had given aid to the enemy. It is not positively known that these trees were of the same variety as those introduced from Bahia, but it seems probable that this was the case. None of these trees came into fruiting, and no trace of them now exists. In 1868 William Saunders, superintendent of the gardens and grounds of the United States Department of Agriculture, learned through a correspondent then in Bahia, Brazil, that the oranges there were of a character superior to any known in the United States. The department accordingly ordered a small shipment of trees. The first lot was found dead upon arrival, but by sending more minute directions as to budding, packing and shipping, twelve small trees in fairly good condition were received by the department in 1870. These were planted in one of the gardens, and propagated from by budding on small orange stock.

The young trees thus propagated were distributed to orange growers in California and Florida, under the name of Bahia, for testing. In 1873 two of these trees propagated from those originally from Brazil were sent to L. C. Tibbets of Riverside, Cal. When they came into bearing, the superiority of the fruit to other varieties then grown in California was quickly recognized, and the trees of Mr. Tibbets were largely propagated from by the California nurseries. One of these nursery men named the variety the Riverside Navel, and claimed to have imported the trees from Brazil him-

self. Later at a conference of orange growers held at Los Angeles, the name of Washington Navel was adopted for the variety, under which name it has been grown generally. The American Pomological Society, however, still adheres to the name "Bahia," under which Mr. Saunders introduced it, and recognizes the names Riverside Navel and Washington navel as synonymous.

Records state that about the time the Washington Navel trees were received by Mr. Tibbets, some were sent to Alexander Crow of Southern California. As the Riverside trees were first to fruit, those sent to Mr. Crow were not considered in the propagation and cultivation of the Washington Navel in this section, and regarding the introduction, this is the correct story:

Early in 1873 Mrs. Tibbets was in Washington just prior to going to her new home in Riverside, Cal. Mr. Saunders offered to give her some samples of this new and untried orange, and she gladly accepted two trees. Of the trees of this variety sent to Florida, some good fruit was produced; but they did not bear enough to pay; and this has given rise to the idea that there was more than one variety in the lot of trees which came from Brazil. But it is now generally conceded that the difference in the fruitfulness came from the better climatic conditions that existed in Southern California. Of the Bahia in its native State the author has been informed that did the Bahia section produce oranges that could be shipped, no other section in the world could hope to compete with them for quality. The navel is grown there in almost a wild state, and when ripe will last only a few days after being picked. The skin is much thinner than that of the California navel, and by breaking it open it is possible to remove the skin from the orange almost in its entirety. If one end of the orange was then cut off, it could be taken in the hand and all the juice squeezed out without so much as wetting the hand. The pulp when eaten has a mushy consistency, and the flavor of the orange is much more delicious than that of our oranges.

In September, 1889, the Department of State, through Alvey A. Ade, acting secretary, sent a circular letter to the consular officers of the United States. This circular letter was sent at the request of the California State Board of Horticulture, and enclosed a series of questions relative to the cultivation of oranges, lemons, figs and olives. D. N. Burke, consul at Bahia, Brazil, reported some of the following pertinent facts regarding the culture of oranges in that place: Oranges grown there were all used in the place, none being exported to even adjoining states. The supply was so limited as practically to prohibit exportation, and it was practically impossible on account of the high price that was charged for them. They would cost there more than \$6 a hundred. Among the varieties given was the navel orange, and it was also stated that they grew to a good size and had a delicious flavor. The fruit was very heavy and often measured eighteen to twenty inches in circumference, while the ordinary size is from twelve to fifteen inches in circumference. The consul also reported that the Seytle orange, which has rather a bitter taste, and

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Send for samples.

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12 inch long,	\$ 9.00	per	1000
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Budded high. Buds cut from C. W. Leffingwell's orchard, which took the medal at the Portland Exhibition. Also

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thirty to fifty cents each. Address

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Orange Seed Bed Plants

Both sweet and sour, the finest lot in California.

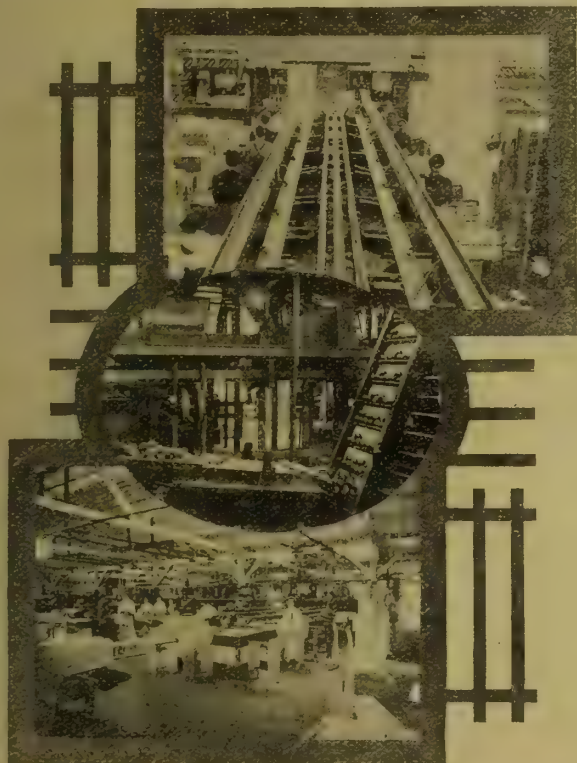
William Wood, Box 118, Whittier, Cal.

the tangerine and wild orange also are grown there. These three varieties all have seeds.

No cultivating of groves was done, except where grass and weeds were kept away with a large hoe. Neither did they irrigate. As their rainy season begins about April 1 and continues till November 1, and the fruit is picked from May to August, it usually ripens in the rainy season. It is stated that trees are propagated by cuttings in California. Orchards generally are very small. People there will buy oranges only when fully ripened.

In California the growing of the gold-

honest effort as any branch of horticultural work in which a man may engage. Coupled with the benefits and comforts to be derived from living under almost perfect climatic conditions, it makes life here one long happy holiday; for a few years' work and saving will place one in a position to be comparatively independent. Dame Nature has done much for us, and here she surely smiles with an audible chuckle at everyone who will half try for the hundred-fold returns we are continually getting. Surely, this is the Garden of the Gods, the Land of the Golden Apple, where



Courtesy Salt Lake Route

apple, with the many varieties of citrus fruits, nearly all of which undoubtedly had their origin in the Malay Archipelago, is so firmly established that without danger of contraction it can be affirmed that the growing and propagating of citrus fruits has reached a higher stage of development than the growing of any other fruit in the world. Compared with other fruits in America, according to the time since orange growing on a commercial basis began, there is more money invested in growing and marketing of the orange and lemon than in all other fruits combined; for the freight and icing charges alone from California amount to about fifteen millions of dollars annually.

* * *

While it is taken for granted that the business of producing oranges may attract a few just for the sake of "owning a grove," there are many (and some early) arrivals who are heard to remark, "I understand an orange grove does not pay." growing citrus fruits, as in any other industry in which a man may engage, the individual himself is the most potent factor in the success of the enterprise; the personal factor, the most important element in making the difference between profit and loss. The successful grower must bring to his work a thorough knowledge of every phase of the industry, backed by a fixed determination to succeed in spite of all difficulties.

The cry of "over-supply" constantly being dinned into our ears, and has been the last twenty years. But the time has not yet arrived, and appears still to be far in the future; for the whole, the growing of citrus fruits offers as good inducements for

the vine and fig tree also are in evidence.

Men who have made a decided success of orange growing have demonstrated that it is necessary to put a large amount of study into the handling of their orchards. Where can one find a business man (and the successful farmer of today is a business man) who would think of investing \$5000 to \$20,000 in a business and then expect it to run itself and net him twenty per cent. per annum on his investment without the expenditure of money for labor or maintenance? That is just what many purchasers of orange groves have done.

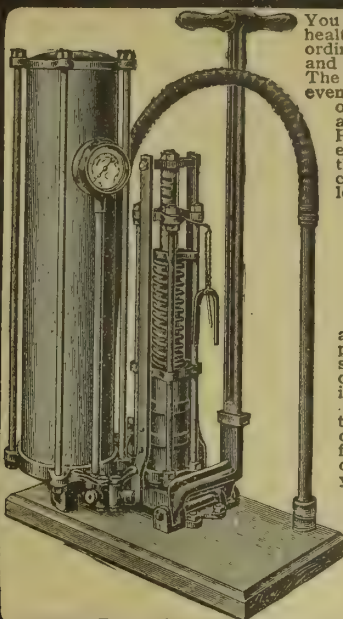
ORANGES IN FLORIDA

C. J. K. Jones, now in Los Angeles Public Library, but formerly a large orange orchardist in Florida, sends us this item from a letter from a Florida grower:

This friend writes, "There is quite a good crop of oranges all through this section (De Land) and prices are out of sight as you will see from the enclosed letter. 'We sold our crop today, clipping from catalogue enclosed, at \$6.25 to \$7.00; highest of the season. This was for very beautiful, heavy, solid grape fruit.' Let it come right along. We have quite a nice little crop ourselves, and are very busy shipping it (oranges). It is very early this year, and of fine quality. We have not sold a box for less than \$6.00, so for once, perhaps, we shall make a little something."

The young fellow who leaves his buggy top down and crumpled, and throws his hat in the corner of the room and hangs his best suit on the closet floor has a pretty good start for traveling the back alley road of life.

MORE FRUIT WITH LESS LABOR



You can positively insure a larger crop, clean fruit and healthy trees at a saving of fully one-third the labor ordinarily required and with a much less outlay of time and money by using a Bean Magic Spray Pump. The reason is because it sprays thoroughly with high, even pressure, but the operator is working against only one-half the pressure indicated on the gauge. It's on account of the spring which makes the Magic Spray Pump the easiest running, most perfect spray pump ever made. No other pump can compete with it in the essential points of quality and durability, and we challenge comparison with all other makes regardless of price or construction.

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are the result of careful study and experience in pump manufacture. We have no other line. We are specialists in pump-making, and the name BEAN on a spray pump or appliance is a guarantee that it is the best that money and brains can produce.

The most successful raisers of fancy fruit agree that spraying is the only and most effective method of securing the best results. The increase in profit from securing fancy fruit will alone soon pay for the outfit. Whether you have a large or small orchard you cannot afford to be without a Bean Magic Pump.

We have samples of these Pumps in stock, and will be pleased to show them to you.

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Southern Grown Trees are best. Our trees are thoroughly dormant and acclimated to this southern country. Largest assortment of nursery stock in Southern California. Write us for price list; it is free.

Fruit Trees Nut Trees Ornamental Trees Roses a Specialty

Orange County Nursery and Land Company

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We wish to call your attention to the fact that we have a large stock of Wood Sole Boots and Shoes of the very best quality. The Uppers are made of the very best quality Milwaukee Oil Grain. The Soles are well-shaped and are an exact and comfortable fit, and our **Patented Fastening** makes this a **Waterproof** Shoe. We all know wood is a non-conductor, consequently it is much drier and a great deal **warm**er in Winter. They are lighter than Rubber or Leather Shoes and Boots. Shoes, \$2.00; Boots, \$3.25.

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7,000 acres sold to satisfied settlers, and more than 1500 acres in grapes. Write for descriptive matter.

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160 acres fine alfalfa land, level and ready to seed;
80 acres No. 1 grain land;
160 acres pasture, good year around.
3 new 10-in. wells supply enough water for irrigation.

Houses, barns, corrals, etc.
50 head selected dairy cows included with ranch.

To right tenant will make long lease and low rental. For particulars apply

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Live Stock and Dairy

COW PRODUCTS.

individuality in the Cow.

DIFFERENCE in the quality of her products confront the dairyman. Milk not too rich, is the present fad, one that carries less fat and less solids than the old requirements. This lighter or more watery milk is sought by asylums, reformatories and hospitals. The claim being that it is more digestible. In certified milk it is more desirable, as it requires less modification to fit it for the food of invalids and babies. The breeders of dairy animals are trying to fall into line with these requirements. The selling of fresh milk has been more profitable than butter or cheese making. Now, however, the high prices of labor has brought the profits down on fresh milk. The health ordinances of the cities are greatly increasing the expense of the milkman. The ordinary milkers will not assume the extra cleaning required about the stables and cows. Every fifty cows requires an extra man, half the time, to clean the stables.

Condensed Milk.

This has always been a clean product. The milk used must be good and free from taints before the condensary will receive it. I was told the other day by a large Eastern jobber, that the sales of condensed milk were greatly increasing in Cleveland. In families of adults milk is often only used in half quantities now-a-days. This is natural, for the great increase in wages has been among the mechanics. The salaried people, clerks, bookkeepers and teachers are having to reduce their table expenses, as the increase has not been great in their earnings.

Breeds of Cattle.

The breeds of dairy stock are growing more nearly alike in their products instead of wider apart. The breeders of the cows giving high per cent milk are now breeding to increase the quantity. The breeders of the skim milk type are breeding to build up the butter fat contents. How well this has been done in late years we see in a record of a cow like Colantha 4th's Johanna. In ten months this cow has produced 23,981.4 pounds of milk, containing 875.7 pounds of butter fat. She is, now, after ten months, giving 65 pounds of milk testing 4 per cent or over of butter fat. This is done by one cow! How is it made possible for one animal to exceed all others around her? Constitution in the cow and brain in the owner. It was Sir Reynolds that replied, when asked, in what medium he mixed his color to obtain their wondrous beauty. "Brains, sir, brains!"

Brains for the Dairyman.

Education is freely offered to the farmer by the government and experiment stations. Did you ever consider that applied brains had lifted farming out of the laboring class to a profession? Farming today has the fascination of a profession. It also has free outdoor life full of pleasure that makes it an ever fresh joy to be alive. Plodding after a plow without thought had brought the products of the soil below cost of production in many of the Eastern

For practical cow milking machine see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles.

States. A man that was used to thinking, a minister, took the land of the poorest type and on fifteen acres soon grew all the rough food for seventeen head of animals. He applied brains, and found farming profitable. I trust all are familiar with the record of Dr. Dietrich's Pennsylvania farm. If not, read it up in the Government Bulletin. The same results have been obtained by him on a larger farm. He has chosen the way to bring back the worn out soils to full production.

Experiment Station Work.

Many of the farmers with brains go to experimenting, not farming. The difference between experiment station work and the farm work is in this: The farmer should only take up plans that have a fifty per cent chance of success. These plans should be formed by watching nature and using the best of her tendencies. Selecting the best always as parent of animals, trees or vines and discarding the poorer specimens. The stations are trying a little of everything, and having the records of failures tabulated for the farmer. I find the things they have found not worth doing greater helps often than the things they suggest as good. It is like having a stake in the hole in the ice, one does not get a ducking by falling in the water.

Casein Test.

The Babcock test has given the butter maker a machine that brings his work down to exactness; he knows how much butter he will have when the churn stops its revolutions. Now the cheese maker has the promise of a new machine to find out the casein in the milk as he buys it. This new machine is said to be simple as the Babcock test in its workings. The testing of the casein could, of course, always be made in the slow, laboratory way, the same way as the butter fat was determined by the earlier test. This could not be done by any one with an ordinary education, it was too much for him. Now the matter is as easy as making the cheese. It will enable the cheese-maker to select the milk he needs intelligently.—M. E. Sherman.

A CONCRETE WATER TROUGH.

If you keep much stock, and especially if it runs in a pasture, a water trough is a necessity. When made of wood they decay and leak and are generally unsatisfactory. A contributor to the Progressive Farmer tells how he made one at small cost which will last several generations, being almost indestructible. In most parts of this State it could not be made exactly according to his directions for lack of broken stone. Where obtainable, oyster shell would answer very well as a substitute. However, the trough could be made from cement and sand, without either rock or shell, but would, of course, cost more, as it would take more cement. The directions are as follows:

Nearly every farmer has to have some sort of a water trough. Some will construct them of plank, others will chop out a log, while a few will take the horses to a mud hole and avoid all trouble. Now, if you have never used a concrete water trough,

Cream Separators, all sizes, all prices. O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.



Warranted to give satisfaction.

GOMBAULT'S CAUSTIC BALSAM

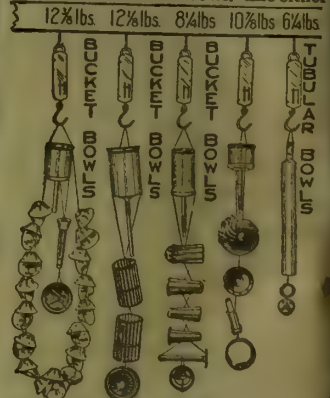
A safe, speedy and positive cure for

Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a **HUMAN REMEDY** for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address THE LAWRENCE-WILLIAMS COMPANY, Cleveland, Ohio.

Saves Hours of Cleaning

Of course your wife would try to wash even the worst cream separator bowl properly twice every day. But why ask her to slave over a heavy, complicated "bucket bowl," like either



of the four on the left? Why not save her hours of cleaning every week by getting a Sharples Dairy Tubular Cream Separator with a simple, light, Tubular bowl, easily cleaned in 3 minutes, like that on the right? It holds the world's record for clean skimming.

Sharples Tubular Cream Separators are different—very different—from all others. Every difference is to your advantage. Write for catalog M-290 and valuable free book "Business Dairying."

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West Chester, Pa.
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CUTTER'S Anthrax and Blackleg VACCINES

Are given the preference by 80% of California stockmen because they give better results than others do. Write for prices, testimonials and our NEW booklet on Anthrax and Blackleg. **The Cutter Laboratory** Berkeley, California

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Nelson Teeter, Corona, Cal.

Successor to Peabody Wall Co.

Registered Jersey Cattle

Several young bulls for sale. Also the famous B. B. Marigold Bull, 5 years old.

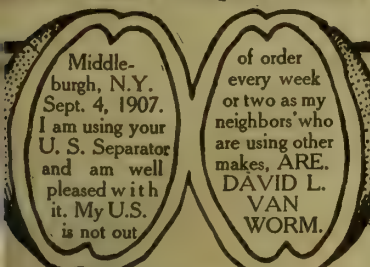
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The Whole Truth In A Nut Shell



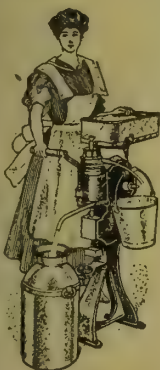
It's "Reliable"

And RELIABILITY is "THE quality of qualities." A reputation for RELIABILITY is not won in a day, a month or a year. Consistent performance during the slow testing of time, alone is sufficient to prove that most satisfactory of qualities—RELIABILITY. Each year for past sixteen years, the

U.S. CREAM SEPARATOR

has been adding to its reputation for RELIABILITY which is UNEQUALLED today. Dairymen today choose the U. S. because they KNOW it can be depended upon to do the Best work ALL the time and the Longest time, too. Time has PROVED it.

Mr. Van Worm's few words sum up completely the many reasons why dairymen everywhere are fast exchanging their old style, unsatisfactory or "cheap" separators for the RELIABLE, clean skimming, up-to-date U. S. If you have one of "the other kind," WE'VE a proposition to make you. Just ask us about it, please.



The thirty illustrations in our new catalog enable you to easily SEE why the construction of the U. S. makes it the most RELIABLE and profitable. Won't you send today for free copy? Just ask for "No. 20."

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Pedigreed and Registered Stock
Write Us What You Want

Berkshire Hogs

Ham Niles & Co., Los Angeles Cal.

C. Roeding, Fresno, Cal., breeder of

thoroughbred Holstein Bulls and Heifers
thoroughbred Berkshire Bears and Sows

you don't know what a great improvement it is over other sorts. But you say at once, "That's all right for the fancy farmer, but I have to make my living farming." Well, so do I. And that is exactly why I can't be forever doing things over and over; must have time to work at farming.

However, a cement water trough is not as expensive as it looks by a good deal. That solid substantial appearance and everlasting quality are two of the things the farmer can get with a very small outlay of cash when he once knows how to do the work.

Here is how we made ours four years ago this fall. We had about half a load of good coarse creek sand left over from another job we had been at. The man was hauling rock again that day so we had him to dump a cart load near where we wanted our trough to be. We fixed up a mortar box three feet by four, put in this two buckets of sand and one of best Portland cement, then more sand and cement, until there was about six bushels of the pile. We then shoveled this over four times so the sand and cement was very thoroughly mixed. The next move was to make two boxes 24 inches high—one three feet by seven feet, the other two feet by six feet—both inside measure. Neither box had any bottom. The first was set right on top of the ground where we wished our trough to be located and the other set inside of the first, so there was a six-inch space all around between the two boxes. Now we sprinkled about a bushel of the cement and sand so it was wet, but not dripping, mixing it well while sprinkling. Spread this between the two boxes, then pounded down all the rocks into the cement that we could and still have the concrete cover all. This made about six inches deep of concrete in our space.

We then got an old piece of one-half inch iron rod, about twenty feet long, bent it the shape our trough was to be and laid it in on top of the concrete already in; mixed some more concrete, dumped it in, pounded in more rock until the space was full to the top of the boxes. We went to shucking corn then and forgot all about the water trough, except that we sprinkled it once in a while when passing that way with the water bucket. After about four days we took out the inside box (made so it would come apart,) dumped a couple of bushels of wet cement in the bottom of the enclosure, pounded in a lot more rock, troweled off the entire inside smooth, and our trough was done at a cost of \$2.80 cash and one hour and forty minutes' time.

We turned the water in after three days, and it has been in use ever since. We left the outer box in place for about two weeks so the stock would not disturb the concrete until it was thoroughly hard. Try one of them.

WE SELL THEM.

The Oliver Plows have merit that's true, Have points of good value that bear weight with you; They turn up the earth in a wonderful manner— And in the Plow march they carry the banner! See Page 618.
—Newell Mathews Co.

Thousands of acres of barley are being sown about Anaheim.

For Mehring Foot-Power Milking Machines see O. J. Weber Co., 555-557 S. Los Angeles St., Los Angeles, Cal.

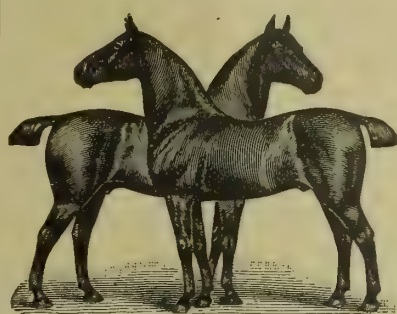
Malthoid Roofing

The roofing that always makes good. No matter how big or little the job, Malthoid fits every condition and renders a roof service that is absolutely incomparable. If you want the roofing that is right—demand Malthoid. Made by the original makers of ready roofings,

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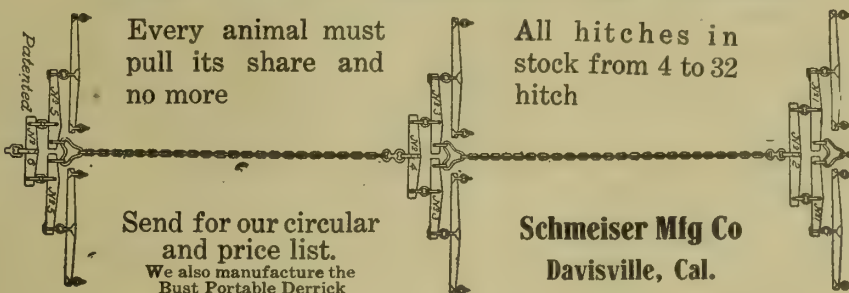
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is making the very best strains of blood fresh from the island of Jersey a specialty.
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High Grade Stock of Best Strains.
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My Berkshires took every blue ribbon and Gold and Silver Medal in the female classes. Choice pigs at low prices. G. A. Murphy, Perkins, Cal.

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Deciduous Fruit Culture

FARMERS' INSTITUTES.

At Banning it was shown by the pear and prune orchards, that conditions there are particularly favorable for these fruits. Bartlett pears, which have had slight attacks of blight for five or six years, are comparatively free and are, without doubt, the best paying crop for that section. The dry atmosphere and slow growth of the trees discouraged the spread of the blight. It seldom infests limbs larger than a lead pencil and many trees show no signs of the disease; in fact, the majority do not. Part of one orchard has alfalfa planted solid up to the trees. These are irrigated by the overflow from the furrows. These trees are much larger than any other in the orchard, and produce twice as much fruit. Twelve-year-old trees producing ten tons per acre.

Peach blight has scarcely made its appearance, but the disease affecting all deciduous fruits were discussed and the growers are on the alert. Irrigation and care of deciduous orchards were discussed by growers, giving the methods best adapted for local conditions.

Coachella.

At Coachella, grape culture is of much importance. The extra large size of the vines attained during the first year renders the second pruning

an operation entirely different from that practiced in the older grape-growing sections of the State. At the end of the second summer, the vines have attained the size and bearing capacity of an ordinary four-year-old vine. We advised that the vines be so pruned, and demonstrations were made in the hall on vines provided for exhibition. After having been pruned, twenty-months-old vines had the dimension of four-year-old vines as grown in the Sacramento and San Joaquin valleys.

So far in the history of grape growing in the desert region, the vines have been allowed to take care of themselves, no experiments having been made in training on stakes or trellis. The latter was recommended as superior to any other method for varieties that require long pruning. The advantages of the trellis over the stake are, the bunches of grapes hang independent and free from contact with canes, leaves, stakes or branches. They hang free and independent of everything. The heavy winds do not wrench and twist the vines, but instead, they swing on the vines as though hinged to it. The most severe winds will not break the vines or injure the fruit. Last, but not least, the vines on trellis will bear about twice as much fruit of superior quality as those tied up to stakes.

The chief disadvantage of the stake, is the rigid and unyielding grip that is maintained on the canes. This permits the strong vines to tear off many leaves and bruises many of the remaining ones. Should the twine holding the vines to the stakes break, the grapes on them are almost sure to be a total loss. This is particularly true of Thompson's seedless. There is always a heavy loss of fruit at picking time, because the bunches grow around the canes and a general tangle is the result.

Brawley.

At Brawley, apricot and grape growing promise great things. The same rules for prunes and training the grape apply all through the Imperial valley as far as known. The apricot is handled to advantage when pruned as when grown in the older apricot growing districts of the State. The trees make a much ranker growth than in other parts of the State, and while a tree of three years is as large as an ordinary four-year-old, it requires the same pruning to bring it down to the proper height and give it strength to maintain a full crop.

These main facts were brought out at all the Imperial valley points.

SHOULD BE IN EVERY HOME.

Mr. J. E. Schofield, of Parlier, says "the Cultivator is a good paper and should be in the home of every rancher in the State. There are many things he can learn from its pages without which he would learn only by experience."

ENGLISH WALNUTS MAKE FORTUNES.

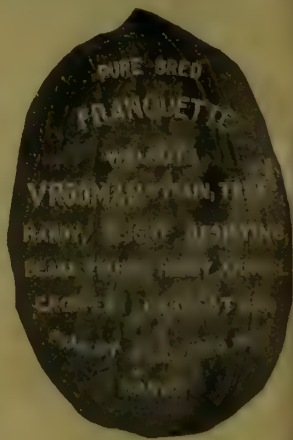
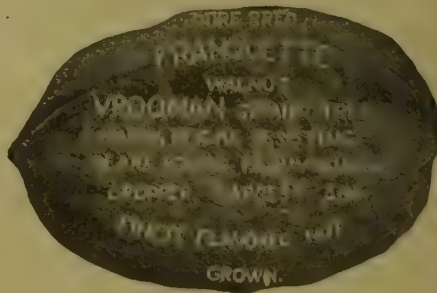
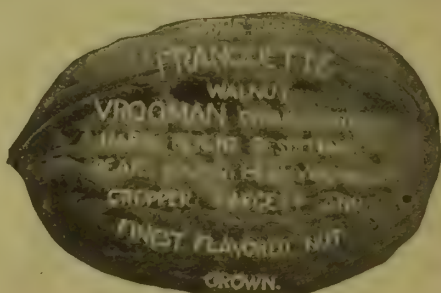
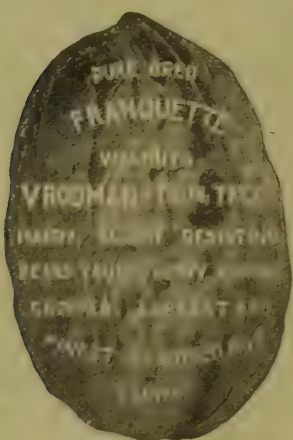
From forty acres of lowlands in Yamhill county, a Massachusetts steel manufacturer who went into English walnut growing as a diversion, is making a fortune. Thomas Prince of Worcester, Mass., who spends a part of every year in Oregon, is the man who discovered the anomalous fact that French trees in American soil produces the best "English" walnuts. He is now planting 30 acres of walnut trees in addition to the 40 already at the productive stage, and 100 acres coming into bearing.

One of the Prince trees produces 125 pounds of nuts for which he receives 18 cents a pound.

Eight hundred acres in the same county are already planted in English walnut trees. French trees sometimes bear as long as 300 years.

THE CENTURY IN 1908.

The fascinating problem of the possible—Professor Lowell says the certain—existence of life on Mars today, is to be discussed fully, authoritatively, yet so that the general reader lacking in scientific training may understand and enjoy, in the new volume of The Century. In his discussion of "Mars as a Possible Abode of Life"—papers based upon this very successful popular lectures delivered last winter before the Lowell Institute, Boston, Professor Lowell will present the most important latest astronomical discoveries and theories; and the illustrations will include reproductions from photographs of the planet, taken under unusually favorable circumstances during the sum-



LET US EXPLAIN

to you the difference between the PURE BRED FRANQUETTE WALNUT—as shown on the border of this Ad—and the ordinary English walnut. When you buy walnut trees, BE POSITIVE WHAT YOU ARE GETTING. Guessing is uncertain and often expensive.

Our walnuts for seed purposes and our scions for grafting purposes are all secured from Mrs. E. M. Vrooman's famous GRAFTED FRANQUETTE WALNUT grove of Santa Rosa, California. Her grove contains

ONE THOUSAND TREES---ALL GRAFTED

the only large bearing FRANQUETTE grove of "ALL GRAFTED TREES" in the world. Write for our FREE BOOKLET describing this "King of Walnut Groves" and its record.

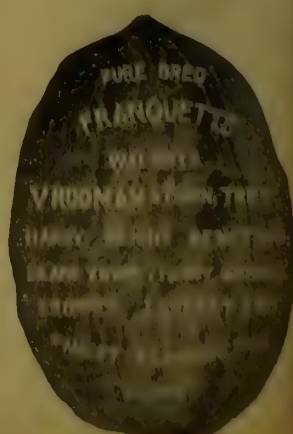
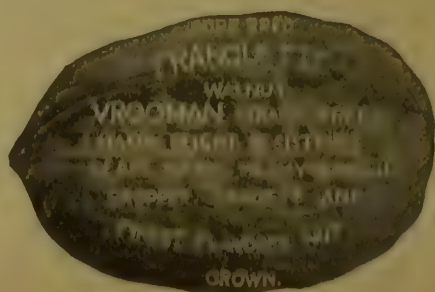
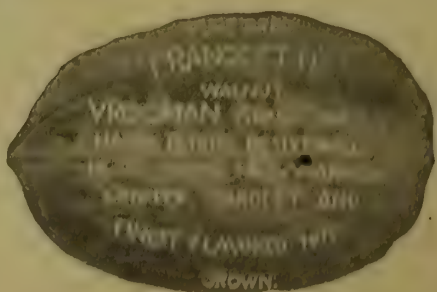
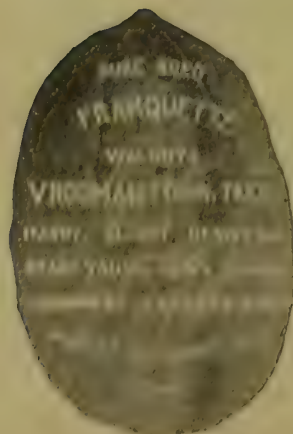
When you buy trees that are descendants of this grove you make no mistake. We guarantee our trees to be Pure Franquettes.

We cannot tell you much in this small space, but let us write you direct. The Pacific slope—(generally speaking)—is adapted to Walnut culture and is destined to become the center of this profitable branch of horticulture. Why not start now? Address,

OREGON NURSERY CO., Ltd.

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We are sole propagators and disseminators. Send 10c postage or illustrated booklet, in colors, about these valuable new creations.

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The beautiful foliage plum
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Every one true to name
Largest and finest stock on the coast. All sorts. Place your orders now.

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All the leading standard varieties.

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In their own roots and grafted on Phylloxera Resistant Roots.

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All varieties—Tree and Bush Form send for our valuable illustrated catalogue. Sent Free on request.

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Grafted Walnut Trees
Hines Perfection
Luther Burbank's Santa Rosa
Grafted upon the American Black walnut root. Trees 8 to 16 feet high, one season's growth. Enquire of
J. L. Crane
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Almonds
King, Texas Prolific, Drake. Three sure crops.
Peaches
Elberta, Lovell, Orange and Tuscan Cling,
Cherries
Bing (earliest), Royal Ann, Bing, Tartarian,
Walnuts
All French varieties. Ellwood, and seedlings,
Pecans
All varieties. In 10,000 or 50,000 lots. Many other good things.
Almonds
French Prunes and Apricots, Muirs and Tuscan Clings, and many other varieties of Peach Trees; all fine budded stock. Large stock of all the varieties of Apples, grafted on whole roots free from all pests. Also a fine stock of Pears, Plums, etc. Send for price list.
CHEIDECKER SEBASTOPOL, CAL.
Prop. Pleasant View Nursery.

Cucumber juice rubbed well into skin will keep the complexion fresh and soft.

Queries and Replies

Questions to be answered in this department should be received at this office one week before reply is expected. Write plainly on one side of the paper and sign full name and address. Unsigned communications receive no attention.—Ed.

Lentils.

Please let me know where I can buy Lentils, as I wish them for planting.—J. Z., Palo Verde, Cal.

Any seed firm advertising in the Cultivator can supply these seeds.

Orange Seed.

Where can I purchase orange seed from which to start a seed bed this coming spring?—D. G., Anaheim, Cal.

We imagine the seed firms advertising in the Cultivator can secure you these seed, or we think that you can readily secure them by going to the packing houses in your section at the time of shipping seedling oranges next spring and secure the culled fruit which you can rot down and wash out your own seed. Should you wish Florida Sour Stock or Trifoliata it will be necessary to get in touch with the seedmen.

Franquette Grafts.

Will you please tell me through the Cultivator where I can secure grafts of the Franquette walnut.—A Subscriber, Orland.

There are several orchards of this variety of walnut in the northern part of the State, one of which is in Woodland and which we recently mentioned as having done very well for its owner. We do not now recall the name of this owner, but by writing nearly any nurseryman in the north, some of whom are advertising in the Cultivator, we think you will be able to get these grafts.

Law of Planting Near Line.

Will you please inform the readers of the Cultivator, what the law is of planting eucalyptus trees near the boundary line.—W. A. B., Perry.

We believe there is no law touching that particular point either as to eucalyptus or other trees, but, of course, if any tree is planted which becomes a nuisance it can be removed. If planted directly on the line then it is property of both and may not be removed without the consent of both. Where trees planted on one place encroaches on other land the owner of the latter may cut such roots or any portion of the top which projects on his land, but ordinarily cannot compel removal while on the other land.

FORESTRY.

Continued from First Page

profits and without being the cause of public calamities. The State is vitally interested in the way this natural resource is exploited, and if its owners do not prove themselves amenable to the demands of the public good, laws should be enacted to compel them to do it.

Another direction for the activities of the Board of Forestry, which should be of immense benefit to the State, is opened by the thrifty growth here of eucalyptus. The great, unanswerable objection to the practice of forestry by individuals arises from the time element involved between the planting and the harvesting of forest crops. Fortunately for Cali-

fornia this objection does not apply to this remarkable genus. There is need for the establishment of an eucalyptus plantation on every California farm, to supply wood, posts, poles and all the thousand uses for which wood is required. I shall not go into detail here to tell you of the methods of propagation or the profits it is possible to secure, but I want to assure you that the Board of Forestry is in a position to help every planter who means business and will meet him half way.

Then there is the fire problem, rendered so vast by the extreme drought of our summers. Fortunately we have good laws to punish those who are careless with fires and the existence of over 600 voluntary fire wardens in the State proves the public is vitally interested in their enforcement. Gradually we are learning to think twice before starting fires though old customs sometimes prevail. Thanks to the efforts of the fire wardens the Board of Forestry has justified its existence many times over by its activities under the laws relating to forest fires. And it will continue to do so until the belief in forestry will be so strong in the State that a popular demand will come for the establishment of a college of forestry at the University of California. This action should be taken and I believe it will be in the not distant future.

IT PAYS TO FERTILIZE

One hundred pounds of grapes to the vine seems like an extremely high average, but it is claimed for the Tom Lewis Fertilizer that that is exactly what it did on the Rus. Stevens's ranch at Sacramento. Rus. Stevens is known to produce exceedingly fine grapes and he knows where to get fine fertilizer. Nor is he the only one for Mr. Lewis says that he can produce testimonials from hundreds of others equally as good.

A farmer at Newcastle, California, writes that he tried it side by side with another fertilizer for which great claims have been made, and found the Tom Lewis to produce the best results.

THE POMONA POWER HEADS

The Pomona Manufacturing Company is out with a 40-page catalogue and price list of its power heads, cylinders and parts. This company has been manufacturing these pumps for a great many years, and the business has so greatly increased that the company is pushed to its limit to meet all the demands made upon it. Many pleased people who have used these pumps have found them so economical both as to fuel consumption and as to repair expense, that they have passed the word along to their friends which has caused the increase in business noted.

Any interested irrigator who may wish the information contained in the book, or wishes to know anything about the pump can write at once to the Pomona Manufacturing Company and secure this booklet.

The El Centro Melon Growers' Association has already signed up 400 acres and expects to produce a total next season of 600 acres. The officers are: John Norton, president; W. R. Waldrop, vice-president; W. S. Ballard secretary; J. A. McCause, W. A. Thayer.

If you have not seen the poultry essay contest adv., write the Success (no lamp) Incubator Co. of White Salmon, Wash., and get a list of the premiums.

Veterinary Instruments, Black Leg and Anthrax Cure, Milk Fever Outfits. See O. J. Weber Co., 555-557 S. Los Angeles street, Los Angeles.

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A Fine Assortment for Coming Season. Our new Catalogue, profusely illustrated, just off the press. Write for it.

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20,000 of Muscat Grape Cuttings, \$2.75 per 1,000. A limited number of Flame Tokay, Cornichon, Rose of Peru, at \$3.00 per 1,000.

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AND
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The Ornamental Garden

LEARNING BY LOOKING.

A WRITER in the Country Gentleman recently gave a few notes on observing the surroundings of tasty homes and shaping our ideas of our own home surroundings. From them we quote:

When the city man who was about to establish a new home in the country, asked advice of a farmer about the location of his buildings and various other details, the latter offered to take him for a drive of 10 or 15 miles through the country. "You will get more suggestions as to what to do and what not to do in a few hours than I could give you in a week," he said. The city man's farm had an orchard and a few old buildings, but he was planning to erect a comfortable house and good barn, using the small buildings for cribs, wood house, chicken houses and pig pens for the present.

Save an Outlook.

They drove slowly, and as they passed the first farm, the city man said he did not like the orchard cutting off the view from the road. It was planted on both sides of the house and completely shut off all but a narrow tunnel of view of the highway. A great deal of the complaint about the loneliness of country life would be done away if more farmers placed their dwellings where the women could have a good view of the road from the sitting-room windows. To be tucked back behind an orchard is not pleasant, though shade trees on the lawn are desirable.

The next house had the wood house placed on the north side of the house, while the driveway was at the south. The wood had to be hauled over the lawn in order to reach the unhandy house that a few hours' work would have placed in a good position. By this time the city man had his note-book out and was jotting down items. The orchard at this place was close to the house, but back, not to tempt passing thieves, and was used as a poultry yard. A high poultry fence kept the fowls off the lawn and out of the garden, which was also close to the house. The barn was at a convenient distance from the dwelling, with the yard back of it.

A Little Better.

Presently they came to a dwelling that seemed ideal—trees hanging protectingly over the house, a wide, smooth lawn, barn well back and yet convenient, and a fine orchard that did not obstruct the view. The trees on the lawn were so large that one could see down to the road without difficulty, and the city man was in raptures. He determined to put his new house right in the thick clump of forest trees on the front of his place and move every other building, if necessary, in order to get the effect of the house before his eyes. But his friend cautioned him to look a second time before making up his mind. He called attention to the mossy roof, the sunless house, sunless except when the leaves were off, and to the damp, mossy look of the lawn. Just then out of the house came a thin, sallow woman with a distressing cough, and the city man was astonished to learn that the house was a regular death trap. The owner did not want to cut down the magnificent trees, for he would not believe the damp, sunless house was the cause of the deaths from consumption in the family; so they lingered along year after year in a living death. "Have

all the trees you want, but don't let them cut the sunlight from your house," was the advice of the farmer as they drove on.

The next house stood in the midst of trees, also, but they were well back so as to allow sunshine and fresh air to flood every part. The farmer pointed out that the dining-room and reception hall were to the north, being rooms used the least, while the sitting-room and kitchen had a south exposure. From the bedding airing out of the windows, it was evident that the family sleeping-rooms were also to the south. The barn was a little to the northeast of the house, so that the west winds that prevailed most of the year took away any odor of the stable. The outbuildings for the house were grouped together behind a grapevine trellis and were quite convenient to the kitchen.

Used a Notebook.

The note-book was called upon time and again during the long drive. There were wide, fancy porches at some houses, and nothing at the back door but steps down. All the money had been spent for railings and gingerbread trimmings, so that the back door had to go unprotected. There were pig pens and stables right on the road where they could not help being offensive—often directly across the road from the houses. To have to look out 365 days each year at back yards and piles of fly-breeding manure is enough to discourage any woman. There were vegetable gardens with small fruits in them along the road to tempt the passers-by and vex the soul of the housewife. Along the road is no place for the garden anyway. No woman likes to go out in an old dress to weed a little while in full view of every one who goes past.

So the city man obtained enough new ideas that morning to set him thinking and rearranging his plans. In time his new home appeared with the fine forest trees left for a grove, but not to shelter the house, the outbuildings grouped where they would be handy but not conspicuous, the living-rooms on the sunny side, the back porch more complete than the front, and many other little details that go to make up enjoyable living in harmony with the general plan. If more people intending to build or rearrange their premises would learn by keeping their eyes open as they drive through the country, there would be more satisfied country women all over the land.

TREES AND SHRUBS.

Trees and shrubs should be used to conceal unsightly objects in the foreground or in the background, to give the idea of surprise or discovery in passing from one portion of a large estate to another and for the purpose of increasing the apparent length in drives which double back upon themselves in parks and pleasure grounds.

A correspondent says that woven wire about thirty inches wide put around his orchard has kept rabbits out of it ever since he used it.

Such a vast number of peach trees were killed in Michigan last winter that it is estimated that ten years will be required for the State to "make good" again her claims as to peach growing.

The precipitation of the recent rain at Salinas was over one-half inch. Total to date is nearly three inches.

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The Vegetable Garden

AN EXPERIMENT WITH CUCUMBERS.

HAVING set a row of posts along the north end of our garden, with the object of making a low fence and at the same time a trellis for grapes, I thought I would try some cucumbers on the south side of this fence by allowing them to run up on the trellis, so that the pickles could be gathered from the under side. The posts were seven feet above ground and boards were nailed on to a height of three feet from the ground. At a distance of seven feet from this fence, short stakes made of 2x3 redwood, and about two feet long were driven into the ground allowing the stakes to extend about 12 inches above the ground and care taken that the row was straight and parallel with the fence. Along the top of the stakes on the outside a board six inches wide was nailed the entire length. The posts of the fence and the stakes were eight feet apart and exactly opposite each other. A strip of 1x4 was nailed from

tion should be had in both irrigation and cultivation. The soil should have been thoroughly cultivated after every watering, and it was just as necessary that the picking be done every day. From the free way the vines climbed this trellis and the secure hold the tendrils made around the wires, I feel confident they would climb a perpendicular trellis, if assisted in the start. While I would hesitate to pursue this method on a large scale, I would surely follow it where space was limited. I think it would be especially valuable when growing cucumbers for slicing.

I formerly grew large quantities of cucumbers for the pickle market, some times sending in five tons in a single day, but one of the chief difficulties encountered was the injury to the vines by the pickers tramping and bruising them, in their efforts to get at the fruit. This injury caused defective fruit and shortened the life of the vines. The trellis system would obviate this.

The row of plants illustrated in the



Under Side of Trellis
Trellising Cucumbers at Mr. Lobingier's Ranch

Vines Climbing Over Wires

the top of each post to the top of each stake.

Common telephone wire was stretched along on top of these stakes the entire length of the frame beginning about four inches from the top of stakes and placing a wire out every eight inches until the entire frame was covered. The engraving will make the construction of this work clear.

The soil was well prepared, and cucumber seed planted along the outside of the frame every three feet the last week in June. Later the plants were thinned to two and occasionally three plants. The branches that did not seem inclined to grow up on to the trellis were assisted by tying loosely in the proper direction. However, they quickly threw out tendrils and fastened themselves to the wires so only that I think it would have been a cyclone to have dislodged them.

Unfortunately, for the financial results of this experiment, the writer was taken ill, away from home, just when the vines began to bear, and was unable to return to the ranch for weeks. For a time the folks at home endeavored to gather them daily, but the press of other more important work made it impossible to give them further attention and they were left to themselves.

I should explain that it was intended to dispose of the product as small pickles and what were gathered were packed down in barrels in salt and sold to the pickle factory. Four barrels were gathered before the work was abandoned, which sold for \$5.00 a barrel—the factory furnishing the salt and the salt.

For the best success, careful atten-

tion engraving is 300 feet long and if the plants had been started early in May instead of the last week in June, and could have had proper attention throughout the season, I think the product would have sold for about \$100 either as pickles or cucumbers. The variety was Nicholi, medium green.

Both photographs were taken some time after the picking had been abandoned. The engraving on the left will show how the fruit hung from the under side.—Q. A. L.

THREE CROPS IN A YEAR.

In warm and sheltered parts of California potatoes may be planted the very first days of January. In order to be successful a rich, loamy soil is necessary. There must be present an abundance of humus. The soil cannot easily be too rich at a time of the year when it is cool, and nitrification is necessarily slow. The tubers should not be covered deeper than three inches. If planted deeper, they will be too far down in the ground to receive the beneficial warmth of the sun's rays. In that case they will be slow in coming up and the tubers will be smaller and mature later and will, consequently, prove unprofitable. Potatoes planted as early as here indicated do best in dry winters when there is plenty of sunshine. Then there will be fair returns even if the soil is not extra fertile; while with a great deal of rain an abundance of humus must be present on account of the cold and the leaching by too much rain. Do not resort to deep plowing as that will destroy capillary attraction, a thing that is much needed in a dry season. When the tubers are beginning to size up well, go along with an ordinary hoe; throw one hoe of earth on each hill preferably from the sunside which will draw the top over and let in heat on the hill, a thing essential at this time of the year. This work can be done about as fast as one can walk, and costs

but little. Aside from this, flat cultivation is in order. A crop grown in this way can be grown and harvested about the middle of April, and the land planted to some ninety-day crop, which can be harvested in August, after which peas can be planted and harvested before the holidays, thus making three full crops off the same piece of ground in one year. But do not be fool enough to think that this can be done everlastingly without adding to the soil. For variety of potatoes use the northern grown Early Rose, if possible. It is best to get them just as the sprouts are starting. Avoid those that have

the sprouts broken off. If the sprouts are not yet started put them in a good warm room, use artificial heat if need be; keep warm day and night and you will see them sprouting in a very few days. Don't plant until they are well sprouted. If sprouting to rapidly, remove to a cool place. Plant whole tubers if not larger than a hen's egg; use none smaller than a good-sized walnut. When cutting do not make the pieces too small. Leave at least two eyes to a piece. Spray with Bordeaux mixture when the tops are not yet quite full grown. Neglecting this may be the cause of total failure.—J. C. Ostergard.

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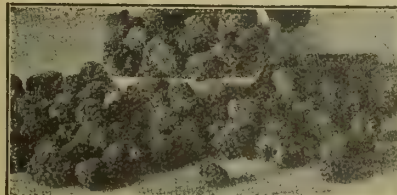
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It is not boasting, but simply stating a fact when we say we have had the largest return from strawberries the past season that has ever been recorded. We consider the quality of the plants we used one of the important factors in obtaining this result. Our plants are grown with all the skill and care that forty years' experience can suggest. Write us for leaflet telling how. The Brandywine is the only variety we grow. Plants ready for shipment January 1st, and we do not think it possible to produce better stock that we offer. Intending purchasers cordially invited to inspect our grounds.

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PACKING FOR PROFIT.

Our attention was directed recently to "A Plea for Honest Packing," by a correspondent in the Florida Agriculturist.

The writer takes the position that there is very much more in careful packing than most people think, as fruit sells as much from its attractiveness as from its worth. The Cultivator has also advocated attractive packing, yet honest packing. The custom of putting the top-off row of berries or fruit of any kind, the best in the box and filling below with imperfect fruit, has proven unpopular, and a losing financial stroke for every seller who has practiced the plan. The scheme is dishonest, in the first place, and must result in damage to the reputation of the seller.

We all soon learn to discredit and avoid certain lines of berries, or certain brands of fruit, just because the packers have the reputation of making dishonest packs; of putting good fruit on top and poor fruit below. As a business proposition it pays to be honest in selecting and packing fruit of all kinds.

The writer of the article spoken of in the Agriculturist says he "well remembers when in the berry business in a distant State, many years ago, that most of the commission men advised topping out the boxes of strawberries by setting some of the largest fruit with the nose up and the stems hidden. This made considerable extra work, and the customers all knowing they were buying topped fruit paid accordingly, while fruit not topped out was almost a drug on the market, the purchaser reasoning that if the top was poor the bottom must be poorer, and therefore they brought poor prices, so the honest shipper was the loser, while the dishonest shipper was the gainer."

The editor of the Cultivator also remembers a

packer in Iowa who topped off his barrels of apples with beautiful specimens of fruit, but from three to four courses below the top filled in with inferior sorts. For two or three seasons he caught the public, but his scheme being exposed he was actually driven out of the market. His fruit would not sell except on inspection, and the expense of inspection robbed him of his profit. So he went broke.

The dishonest packer, the careless packer, will always lose out in the end, for the public will not stand deception. The old saying that it pays to be honest, applies with significant force to fruit packing.

"In packing fruit of any kind," says the Agriculturist, "an effort should be made to grade as close as possible and if there are several sizes let each be packed separately and marked accordingly, when the number of fruits in the package is required. The writer has in mind two shippers living near each other, who were receiving vastly different prices for what seemed to be the same quality of fruit, and it was all in the grading and neatness of packing.

"An attractive package will do much to sell fruit for a time or two, but if the fruit is not what it ought to be, buyers soon learn to pass it by. There are some shippers who claim that it makes little difference about the fruit if it is put up in an attractive package, while others claim that so long as the fruit is all right the package is of no importance. Both are mistaken. The package should be as attractive as possible to be practicable, and the fruit should be well graded as to size and quality if the shipper expects to create a demand for his fruit other than the casual buyer. If the fruit is so packed, and the shipper advises the firm he consigns to at the time of shipment, the house will have no trouble to place the goods, and after a few consignments every one will bring the top prices. Even a lower grade of fruit well packed will out sell better fruit that is poorly packed. So it pays to be both careful and honest when packing fruit of any kind, for any market."

This advice is worthy to be considered by every packer, everywhere, for a reputation gained by careful packing is a trade mark which will be of lasting value to the person engaged in the fruit industry.

THE INDEPENDENT FARMER.

The financial scare, which, by the way, is waning, afflicted the farmer less seriously than any other person in business at the present time. The farmer was not scared, as was the banker, because he was independent. He had a fine crop the last season which he sold at good figures, and he had paid his debts with its proceeds. His oranges and lemons, his vegetables, his dairy, his poultry and eggs made him good money, and he was so busy putting his land in condition for the coming crops that he had no time to think about a "financial flurry." He had plenty to eat himself and to feed his stock, and what he had to sell brought just as good prices as ever. People have to eat no matter what distress the business world is in, and the man who has something to sell is always sure of an easy road. The railroad managers have to hustle, along with the banks, to provide money and means to move the wheat crop, the corn crop, and any other crop demanded in the markets, while all the farmer has to do is to turn his products into the warehouse, take his check and go home. He doesn't have to worry about a panic; if it comes it hurts the spendthrift, the individual who needs to be taught to mend his ways, to get back to an economical method of living and to stop doing business on a credit system.

The credit system is a bad one anyway. It makes people spendthrifts and it encourages dishonesty. After each panic we become virtuous, for a time; we pay as we go and we are happier for the experience. In '93 we reformed. We ran for a couple of years on a cash basis and we prospered. We cursed and discussed the pernicious credit system, but we drifted back into the old way, and when we were confronted in '97 with another shortage of money we agree that the only proper thing to do is to pay as we go. The business man just now is the fellow who is worried, or he was worried, for his credit was big

and his cash was locked up in the bank vault.

The farmer, however, hasn't fretted any for his wheat, oranges, lemons, hogs, cattle and horses are better than bank stock or clearing house certificates. Ah, the farmer is an enviable fellow in this day of hustle and worry.

LUTHER BURBANK.

The recent visit of Luther Burbank to Southern California was productive of much satisfaction to his many friends and admirers.

His public addresses were instructive, and replete with his simple personality.

Whatever may be said of Luther Burbank, by his critics, the fact remains that he has done, in a modest way, a great deal of scientific work, which is of more than passing value to the country. He is still investigating, propagating and creating new varieties of plants which promise results of inestimable worth to California.

FOR SALE.

A man died and left a million. Every other man who died left that same million. Wherein was the man the richer, inquiries a writer in Farm and Ranch.

It is only money well spent that is saved. Think of this, often.

There is saving to great loss. We do not condemn economy, but do not approve hoarding. Wealth may be commendable. It is desirable. It is often contemptible. How much would Rockefeller give to be respectable? Who would carry his conscience for his wealth? Great thieves may get wealth, but can neither steal nor beg respect of honest men. The respect of some men is for sale, but is not in demand, even by the corrupt.

FARMERS' INSTITUTES.

Conductor Neff announces Farmers' Institutes as follows: Toluca, Jan. 6; Hollywood, Jan. 7; Gardena, January 8.

Shop Talk

Here is something for you to do, which will be of great value to yourself and all the CULTIVATOR readers and a help to the editor. Many people voluntarily write, asking such questions as you see answered under Queries, and which are often very valuable to the general reader. It will be impossible to give a special article devoted to each subject you may mention in answer to this, but the questions are asked with the idea of getting a better understanding of what interests our readers most, and with the desire to give seasonable information on such subjects as pertain to all sections of California.

What department of ranching interests you most?

.....

If fruit, what kinds?.....

If stock, what kinds?.....

On what particular subject would you like more information just now, or in the near future?

.....

Is there a new arrival in your neighborhood who should have the CULTIVATOR? What is his name and address?.....

.....

In what is he interested?.....

Signed

Address

You can appreciate of what value this will be to everyone concerned, so cut it out and mail to us if it appeals to you. Perhaps it is time to remit, and you can do that at the same time.

Address mail to CULTIVATOR PUBLISHING COMPANY, 115½ N. Broadway, Los Angeles, California.

Agricultural Notes of the Pacific Coast

Northern California

Colusa county is exhibiting a 44-pound beet.

After the recent storm at Yreka heavy frosts prevailed.

Horse races is giving zest to life at Anderson this week.

Sacramento river is rising slowly as a result of recent storms.

Anderson is shipping large quantities of cord wood to Sacramento.

Some damage occurred at Willows from the storm which occurred last week.

Ice cutters are busy with their work up in the mountains near Truckee.

Salano county farmers are making a hard kick against the bad roads of that section.

After a thorough inspection of Tehema county sheep they are declared to be free from scab.

There were shipped to Sacramento 71 cars of green apricots this year as against 16 last year.

Northern California shipped ninety-eight cars of cherries this year as against 150 last year.

Tehema county stockmen will try to prevent trespassing on pastures by fencing the larger ranges.

The latest farming attempt in the Sacramento valley is the hatching of alligator eggs near Red Bluff.

The Recorder's office of Siskyou shows great reduction in the number of farm mortgage now on record.

Total shipments of deciduous fruits from the northern part of the State will aggregate to date 7491 cars.

Butte county olives are bringing remarkably good prices this year. The price is ranging from \$40 to \$75 per ton.

Colusa County Horticultural Commission is to open up a stiff fight against the yellow scale infesting orange trees.

Santa Rosa hop growers are organizing to become members of the Central Organization recently formed at Sacramento.

A drainage canal to be constructed near Yuba city will drain a section about 12 by 3 miles and will cost a total of about \$30,000.

Arrests have been made at Woodland of parties charged with starting fires last August, which swept over a number of big stock ranges.

It was rumored at one time that the irrigating canals near Orland were to be purchased by the reclamation service, but no sale has yet occurred.

Colusa county claims she is now growing as fine oranges as the sun ever shone on and calls attention to the exhibit in her Chamber of Commerce for proof of her claim.

The Two Rock Grange has elected the following officers to be installed the first meeting in January: Master, John Schobera; Overseer, Walter Church; Lecturer, Mrs. J. E. Freeman; Secretary, Mrs. Minnie Church; Treasurer, James Carmody; Steward, Byron Punvme; Assistant Steward, A. L. Stice; Ceres, Mrs. Annie Purvine; Pomona, Mrs. Schobera; Flora, Mrs. A. P. Martin; Lady Assistant Steward, Mrs. James Carmody; Organist, Mrs. Jennie Purvine.

Central California

Laton is hoping to have an electric railway.

The rainfall at Watsonville is nearly seven inches to date.

Redwood City is bonding itself for \$30,000 for a new water system.

Watsonville has invented a new spraying machine said to be very economical of handling.

The State Game and Fish Commission realized \$110,000 as a result of resident hunters' licenses.

The greatest scarcity of raisins is said to prevail in eastern retail markets of any time for years.

It is expected that the seeding houses at Fresno will open up full force immediately after the holidays.

Watsonville is holding a meeting in the effort to secure water transportation from that town to the Monterey Bay.

Chairman Sharp of the Horticultural Board of Kings county reports little sign of blight in the peach orchards.

Shortage of seeded raisins is complained of in the eastern markets, which has been caused by long-time transit.

A Watsonville poultry dealer has acquired a new revolving egg cabinet, said to keep eggs for hatching purposes in the best of condition.

Woodchoppers at Watsonville made a killing of 137 snakes in one bunch last week. This has not induced the opening of a temperance campaign as yet.

Some cars of dried fruit which have been shipped from San Joaquin Valley and should have reached Chicago in fourteen days, have been over fifty days in transit.

Many f.o.b. sales of raisins made this season have been rejected on arrival at eastern markets because of some fancied or claimed inferiority of fruit or of pack.

The Pajaronian says: The reforestation of the barren spaces in the Monterey national forest is just now receiving especial attention. Supervisor Torstenson has just shipped to the watershed of the Arroyo Seco 20,000 young pine trees from the government nursery at Santa Barbara. These he will plant on the northern and eastern slopes, along trails, where their growth can be watched and protected.

Orchard City Grange at San Jose has elected officers for the coming term as follows: Master, E. C. Keesling; Overseer, J. Bohnett; Lecturer, P. W. Keith; Steward, Mr. Sholtz; Chaplain, Mrs. Newcomb; Pomona, Mrs. Wilson; Flora, Mrs. Keith; Ceres, Mrs. Hutton; A. S., Mr. Newcomb; L. A. S., Mrs. Sawyer; Secretary, Mrs. Keesling; G. K., Mrs. Foster; Organist, Miss M. Keesling; Trustee, Mr. Whitman.

At the annual meeting of the Fresno Poultry, Pigeon and Pet Stock Association the election of the following officers was made: President, J. F. Forney; vice-presidents, one from each county represented in the association, S. G. Bowen, Fresno; J. C. Naylor, Bakersfield; Elias Gallup, Hanford; Ben Woodhull, Stockton; S. O. Lindgren, Kingsburg; secretary, George R. Andrews; superintendent, R. Uhler; treasurer, A. V. Lisenby.

Southern California

Rainfall at Los Angeles to date 3.43 inches.

Redlands has had about 3½ inches rainfall.

There are 400 pumping plants near Anaheim.

Rainfall at Oxnard to date is nearly five inches.

Coachella Valley is to have a rural free delivery.

Brawley will plant 3000 acres of cantaloupes next year.

A special train of celery is a regular daily feature at Westminster.

San Diego's estimated lemon output for next year will be 900 cars.

Twenty-five hundred acres of beets have already been planted at Oxnard.

Young cabbage plants at Anaheim are looking very thrifty and promise a fine crop.

The recent El Centro horse show is expected to merge into a regular annual horse fair.

Two carloads of dried chilies have been shipped from Anaheim at 10 cents per pound.

Redlands shipped about 125 cars of oranges during one week in the earlier holiday shipments.

One grower of roses in Santa Ana will ship over five carloads of young plants this season.

Buaro, in Orange county, shipped a large number of Christmas strawberries to Los Angeles market.

Beaumont is to have a large reservoir constructed for conserving the water from wells recently sunk.

Experiments with growing onions and cabbage on "salty" land in the Coachella Valley has proven successful.

Another large planting of forest trees is to be made in Mill Creek Canyon, San Bernardino Mountains, by Forest Ranger Allen.

A blacksmith at Tustin has invented a machine for sharpening the disks of plows and harrows which is said to work most satisfactorily.

Los Angeles county is the heaviest lemon shipper of the State. Next year's output is estimated at 1200 carloads, while Riverside is a close second, with 1000 carloads.

The Riverside Press, as a result of an extended canvass as to citrus conditions for the coming year's crop over Southern California, estimates 24,000 cars of oranges and 4500 cars of lemons.

The Mesquite Lake Melon Association has been formed near Brawley. The membership controls about 500 acres of melons, which will be marketed through one concern in New York.

It has been urged that the flow of water from the Colorado River into the Salton Sea shall be permitted to continue sufficient to maintain a large body of water there so as to secure a beneficial influence on the climate of that section.

Mr. C. F. Heil, who recently accompanied a train of celery to the East, has found many uncalled-for delays which he will urge railroads to overcome. The average rate for the entire distance East, including entire stops, was 10.2 miles per hour.

The Coast

An Idaho fruit grower secured \$1100 from five cars of apples.

Big plantings of apples are to be made in Linn county this season.

This has been a banner year for the prune growers at Washington.

Hops in the northwest are looking a trifle less discouraging during the last few days.

Montana is booked for some forty farmers' institutes during January and February.

Oregon claims that Alsike clover is proving to be a great mortgage lifter for that section.

Washington is discussing the advisability of changing its laws regarding irrigating water.

The Idaho State Dairymen's Association will meet in annual convention January 8th to 11th.

The Montana Dairymen's Association held its convention at Great Falls, Montana, December 17th and 18th.

Colorado Agricultural College has held 113 institutes in the last year, at which the total attendance was 19,190.

Hood river apple growers are finding that Spitzenbergs are selling for \$1.00 per box more than Yellow Newtons.

The Northwest Fruit Growers' Association met in an annual convention in Vancouver, B. C., December 4th and 6th.

The mild winter is giving the farmers about Pendleton, Oregon, hope of a bumper crop of grain for the coming season.

The walnut industry of Yamhill county, Oregon, has developed to that extent that it now has a large and flourishing walnut club.

A dewberry grower at Plateau city, Colorado, harvested 2000 crates of fine Lucretias, from five acres for which he received \$2.75 per crate.

The Portland Oregonian covered itself with glory in making a complete report of the Oregon dairymen's meeting recently held in Portland.

The Experiment Station at Pullman, Washington, is getting very interesting results in investigating the hereditary properties of a kernel of wheat.

The farmers at Peck, Idaho, have made a complete success of growing hard winter wheat, which commands a much better price than the softer varieties.

As a result of a scrap between sheep men of Oregon and forest reserve men, the sheep men are forwarding to Washington charges against the forest rangers.

The fruit growers in the vicinity of Marys River have formed the Marys River Fruit Growers' Association which will have charge of marketing products of the owners.

At the annual meeting of the stockholders of the Yakima Valley Fruit & Produce Association reports were made on prices received for fruit during the past season which were exceedingly satisfactory. Extra fancy Spitzenbergs averaged \$2.75 per box.

PER
2 BUSHEL
SACK

\$1.90

PER
2 BUSHEL
SACK

Buy the World's Famous Egg Food No. 4

MIDLAND

IF YOU WANT EGGS
YOU WILL FEED NO OTHER.

Used by the largest and best breeders in the country. Thousands of poultrymen are using it, and it is the acknowledged standard of the world. Haphazard feeding is no longer profitable. Try Midland Food and be convinced.

Petaluma Incubators and Brooders

The acknowledged standards of perfection. All poultrymen who have used these machines have supreme confidence in their ability to hatch and breed. Hence their ever increasing popularity. Winners of the Gold Medal at the St. Louis World's Fair for the greatest hatch, with 40 different makes of incubators in competition. How's that?

St. Louis, Mo., Dec. 8th, 1904.—Petaluma Incubator Co., Petaluma, Cal.: My dear Sir—The awards have been held up owing to a controversy between the Exposition officials and the national commission, but today I am able to state the award of a gold medal on your Petaluma Incubators has been confirmed. You are at liberty to make use of this in any way you see fit and in due time the diploma will be issued and the medal obtainable. Congratulating you upon this evidence of the merits of your incubators, in which there was very great competition, I beg to remain, yours very truly, J. A. Filcher, Commissioner.

And Now Comes New Reward for Merit

Read the following telegram received from the Lewis & Clark Exposition at Portland:
"Petaluma Incubators and Brooders just awarded Gold Medal at Lewis & Clark Exposition."

WRITE FOR CATALOGUE 47—A BEAUTY

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Main Office and Factory, Petaluma, Cal., Box F.
Los Angeles, 636 South Main Street.
San Francisco Office and Salesroom, 83 Market St.

Ranch Mirasol

(Lincoln Avenue
Poultry Yards)

S. C. White Leghorns---Mitchell Strain

Eggs for Hatching

Our birds are not the culls and accidents of the fancy breeder, but have been bred for generations for a definite utility type to lay both quality and quantity. They are selected by the Hogan system and mated by Standard requirements. Ready for delivery January 1st. Order books now open.

Carl C. Curtis, Owner, Lincoln Avenue and Ventura St. Pasadena, Cal.

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The Jubilee Incubator Co.

HAS A BIG SURPRISE FOR
THE POULTRY FRATERNITY

SUCCESS NOW ASSURED BY USING
The Jubilee

We have something new for you. Send us your name to place on list for Catalog "J" being issued.

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Excelsior Egg Food

The food to feed when you want eggs.

None other just as good.

Excelsior Chick Food

Will raise more chicks than any other food on the market. To try it means you will use no other. If your dealer can't supply you, write us.

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Chamberlain's Perfect Chick Feed



World's Chick Feed of To-Day. The only original Dry Chick Feed. All others are worthless imitations. Chamberlain's Perfect Chick Feed was used exclusively at the great St. Louis World's Fair during the 7 months. This is the highest compliment paid to any manufacturer of poultry food in the world. Perfect Chick Feed also endorsed by the U. S. Experimental Station and the Columbia School of Poultry Culture. All the leading poultry men of the country use Chamberlain's Perfect Chick Feed on its merits.

NOTHING JUST AS GOOD.

GERMAIN SEED CO.,

Pacific Coast Agents.

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SPECIAL PRICES ON TON LOTS.

Profit in the Poultry Yard

We solicit short articles of a practical nature from the fancier and utility breeder, giving their experiences with poultry. All inquiries pertaining to feed, management, disease and its prevention will be answered through these columns.

PETALUMA POULTRY EXPERIMENT STATION.

A synopsis of investigation made at the Petaluma station are reported in the following:

The equipment of the poultry station has been materially increased during the past year. Sixteen poultry houses, including four different kinds, with substantial wire-fenced yards, have been erected, thus providing greater facilities for carrying on feeding experiments urgently called for by the popular demand for information along this line.

Careful records are being kept of the health, general condition of the fowls and the egg yield from the different yards with a view of practically answering inquiries constantly made with reference to the style of house and mode of ventilation which would prove to be the most profitable for the man of small means.

Among the many inquiries received at the station were questions relative to the comparative feeding value for fowls of wheat and corn. At the present ruling prices there is not much, if any, difference between the cost per ton of the two grains, although corn has always been quoted at a higher figure. In order to test this matter an experiment was undertaken and continued far over six months, or through the entire laying season. Two small flocks of White Leghorn pullets, as nearly as possible of the same age and weight, were selected and treated exactly alike as regards housing and care, and both pens were fed the same kind and quantity of soft food for the morning meal. For the afternoon meal pen No. 1 was fed whole corn, while pen No. 2 received the same weight of whole wheat. Daily records were kept for the entire period of the experiments. A summary of the results showed the two grains had equal feeding value, thus indicating that the poultrymen should buy the cheaper grain, or, if the price were the same, use both.

Another successful experiment carried on at the station was the respective feeding of whole wheat and rolled barley to different pens. This trial was also made for the purpose of ascertaining the relative quantities of these two grains for feeding fowls. It was considered of special importance, on account of the difference in the cost of wheat and barley. If it could be proved that there was no material difference between the feeding value of the two grains, then the poultryman would save considerable were he to use barley with wheat, if the total substitution of the one for the other was not desirable. To carry on this experiment two

pens were selected. In each was placed twenty-five White Leghorn hens of same age (1 year) and weight. The details of the test were similar in all respects to the one just mentioned, with the exception that pen No. 1 was fed barley in the afternoon and pen No. 2 wheat. Careful daily records were kept and these proved conclusively that the egg yield from the pen fed barley was fully up to that of the wheat fed pen. After a certain length of time the conditions were reversed and the pen which had been receiving barley had wheat and vice versa.

Accurate records of the two pens again showed no advantage was gained by feeding wheat. The result of this experiment is very satisfactory and encouraging, in view of the higher cost of wheat. Naturally, if fowls are accustomed to wheat, it would be foolish to suddenly substitute barley, but on the other hand, a marked saving could be made if barley were fed in place of part of the wheat.

The question of "dry feeding" has caused considerable discussion during the past few months, both in the various poultry journals and at poultry association meetings. It appeared, therefore, that it was incumbent on the station to thoroughly test this method of feeding for the benefit of the poultrymen of the State. Accordingly, six pens of White Leghorn pullets have been selected. Three of the pens will be fed in the ordinary way and three in accordance with the new method. The details of this experiment will be published as soon as the results warrant. It is to be hoped that a favorable report may be made for the "dry feeding," as this plan saves much time, labor and inconvenience for the poultry feeders.

Experiments with moulting fowls were made during the past season, others are now being carried on. The object of such tests is to ascertain whether it is possible to hasten the moult and thus cause the fowls to start in laying sooner than when the ordinary method is followed. Several different plans have been proposed by poultrymen; among these is the "Van Dresser Method." Briefly this consists in withholding food wholly or in part for two weeks, which stops egg production and reduces the weight of the fowls, and then feeding a rich, nitrogenous ration suitable for the formation of feathers and general building up of the system. This plan was tried at the West Virginia station with apparent success. Trials by private parties have not been uniformly successful. This station received so many requests for information on this subject that it was considered best to conduct an experiment on "Forced Moulting" vs. the usual method. Two pens, therefore, of twenty-five fowls each were included in the test. Pen No. 1 was fed no mash and only a very little grain for two weeks, at the end of which time a very rich nitrogenous ration was given to the fowls. Pen No. 2 was fed as usual. Careful and accurate daily records were kept for four



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BEST
POULTRY
TONIC

Strengthens the digestive organs, tones up the system, stimulates growth, purifies the blood and greatly increases the production of eggs.
After trial of your Poultry Tonic my egg yield doubled in number, and am so well pleased that I have ordered my grocer to keep it on hand always for me. I deem it indispensable.
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Manager Orpington Poultry Yards,
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Winners at Crystal Palace and leading shows in England.
Also at the State Fair, San Jose and Oakland, 1906.
Also State Fair and San Jose, 1907.
Stock for sale and Eggs in season.

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Petaluma, California

Also Breeder of Buff and Black Orpingtons and Barred Plymouth Rocks.

Do You want the Breed That Lays

the year around and brings \$1.00 each when sold to market? Our **BUFF ORPINGTONS** are that kind. Write for show record never equalled on the Pacific Coast, Catalogue, and prices.
Mr. and Mrs. W. S. Sullivan
Agnew, Santa Clara Co., Cal.
State V. P. Nat. S. C. B. O. Club.

Newbert's White Leghorns

Are the best in the State. I proved it at the last State Fair, winning four of the five firsts from the best breeders in the State. Hatching Eggs, \$6 per hundred, \$1.50 and \$2.00 per setting.

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The bird for the Farmer and Fancier.
Trios, Pens and Male Breeders for sale.
Red Feather Poultry Yards
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EXCLUSIVELY
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First prizes San Jose '06, and State Fair '07
Three First Prizes San Jose, '07
Free catalogue of heavy layers and finer list of eggs for hatching on application.
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Spargur's Trap-Nested White Leghorns

Eggs \$1.50 per 15, \$7.00 per 100. I. R. Duck Eggs, \$1.00 per 13, \$5.00 per 100.
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Don't Pay

the highest price, get the Most and Best for your money. 3 months trial, 5 year guarantee; best brooders on earth. Catalog free. 120 pages
E. E. McClanahan
701 So. Main Los Angeles

Poultry Show Dates

Los Angeles, at Chutes Park, Jan. 6-12, 1908.—Second Annual Exhibition Breeders' Association of Southern California. Dr. Winslow, president; H. A. Meserve, secretary. Birds will be received January 1st. Judged by score card and awards read before public is admitted Monday, January 6th.

Pomona, Cal., Jan. 6 to 11, 1908.—First annual show of Pomona Poultry Association. Write C. C. McKey, 372 W. 2nd St., for remium list.

months, both as to the general health and egg yield of the two pens.

The details of this experiment are very interesting and valuable and will soon appear in bulletin form with those of the other experiments mentioned in this article. For the present it can be said that the forced moulting of the fowls was not a success; that is, pen No. 2 containing fowls fed in the usual way, yielded better results than did pen No. 1. The experiment under way includes four pens; pens Nos. 1 and 3 containing the same fowls experimented with last year, and pens Nos. 2 and 4 containing fowls one year younger. Pen. No. 1 is being treated according to the "Forced Method" of moulting; pens Nos. 2 and 3 are fed as usual. Pen No. 4 is receiving a richer nitrogenous ration than that fed to the others. The results up to date would tentatively seem to indicate that the best way to feed fowls, during the moulting period would be to materially increase the nitrogenous ingredients of the ration, preferably by the liberal use of bone-meal.

As stated above, the work accomplished at the Petaluma station has been, for the past year, mainly along the lines of feeding trials. At the laboratory at Berkeley the investigations have included a large number of analysis of foods and food products used by poultrymen, and the further study of many of the proprietary and condimental poultry foods found in the market.

AROUND THE YARDS.

Have your breeding pens mated early.
* * *

We would like to see all market eggs dated.
* * *

Paderewski, the famous pianist, is an admirer and breeder of the Polish varieties.
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Don't send filthy eggs to market.
* * *

Rye—Wheat.

Will you kindly inform me in your next issue the relative value of rye, as compared with wheat, for poultry food?—Subscriber.

Rye is not as good as wheat for poultry. We have fed rye several times, but found poultry do not like it as well as wheat.

For ten months ending December 1st the Southern Pacific Company reports 10,912 cars of vegetables, green and citrus fruits shipped from north of Tehachepi to sections outside of the State.

No. 750
Price \$8.50

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EGG MAKING MACHINERY

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ENTERPRISE

BONE, SHELL AND CORN MILL

an every-day necessity to the most profitable keeping of poultry. A strong and practical mill. Weight 10 lbs. Capacity 12 bushels of corn per hour. Sold by hardware and General Stores, etc. Write for the "Enterprising Housekeeper," a book of 200 choice recipes and kitchen helps. Sent free.
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Beef Scraps Raw Bone

GUARANTEED ANALYSIS:

Protein65%
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Made of Cooked and Dried Livers, Lungs, Melts and Clean Scraps. No fertilizer ingredients in these Beef Scraps.

GUARANTEED ANALYSIS:

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Made of Clean Beef Bones, surplus fat removed. Cleanest Raw Bone on the Market.

Pure, Clean Animal Matter Poultry Foods

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EGGS FOR HATCHING

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Single Comb Buff Orpingtons
White Rocks and
Indian Runner Ducks
Orpington and Rocks \$2 per setting; \$6 per 100.
Duck Eggs \$1.50 per 12.
Write your wants. Correspondence carefully answered.

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We believe this Green Bone is as good or better than beef scraps costing much more. But the better way is to try it and convince yourself.

Price, \$2.50 per 100-lb. Sack

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Starbuck's Barred Plymouth Rocks

We trap nest our hens. Why set from poor layers? Bird laying qualities are inherited the same as any other. This year we have discarded all old matings and have gone to the next generation. Cocks have 9 generations of 200 egg mothers. Hens all from 200 egg mothers and from cock with 6 generations of 200 egg mothers, and are laying fine. We have divided into pens according to the way they are showing up in four months laying. \$2.00 for 13 eggs from first pen. \$1.00 from 2nd. until they have time to make longer records. (Except from one best, \$20 for 13.) No Sunday sales or visitors.
Wm. Starbuck & Son. Fullerton

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The World's best layers. Our folder for '07 is ready. Drop a postal to
J. W. Shade San Bernardino, Cal.

WHITE AND BUFF WYANDOTTES

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large stock of the very best goods of all kinds at the lowest prices. Come and see us, or mail your orders; you will be treated right.

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are as good as can be made. Also PACIFIC COMBINATION BROODER. And they are priced right, too. We also make the "BUSINESS" Incubators and Brooders. Just for business and they do it everytime. Hot water heating. Very low prices. Send for free Catalogue.

West Coast Seed Co.

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MISSION VIEW ROULTRY RANCH

At the Los Angeles County Poultry Association Show, Dec. 7-14, 1907; White Wyandottes, 1, 2, 4, 5 cks; 1, 2, 3, 4 ckl; 1, 2, 3, 4, 5, hen; 1, 3, 4, 5, pul; 1, 2, 3, 4, 5 Pen; MAMMOTH BRONZE TURKEY—1 adult, 1, 2, 3 yearling; 1, 2 young tom; 1, 2, 3, 4, 5 hen; and 2 on ten pullet pen; 1, 2, 3 pullet.

Out of thirteen possible specials I won ten follows: The Times cup for best display of White Wyandottes, the Los Angeles Produce Exchange \$50.00 silver cup for best display of table fowl, the Henry Albers loving cup for best pen of White Wyandottes, Harper & Reynolds Company's handsome carving set for best display of White Wyandottes, the Superintendent's cup for best display of any one exhibitor of any one breed, a California incubator for best display of turkeys, the Association cup for best White Wyandottes, the National White Wyandotte Club cup for best Wyandottes, all the National Wyandotte Club ribbons for best cock, cockerel, hen and pullet; and in the competition open to ladies only; cut glass vase for hen and ten chicks in a large breed; and cut glass salt and pepper shakers for best bantam hen and five chicks.

I had the largest exhibit of White Wyandottes ever made on the Pacific Coast by any one exhibitor. I raise all my birds and keep forty breeding pens and all my hens are trap-nested. MRS. C. D. HUBBARD, San Fernando.

Killamite

Kills mites and lice and bugs of all kinds on fowls and plants and about the house. The best insect powder made. In sifting-cans, 10c, 25c and 50c. If your dealer hasn't it, we will send 50c can, or 6 lbs. for \$1.00, expressage prepaid.

West Coast Chick Feed

A full, rightly balanced ration, to be fed dry. All pure feed, no filler, no waste; best made. Keeps them growing and healthy. For sale by dealers. If not by yours, send to us.

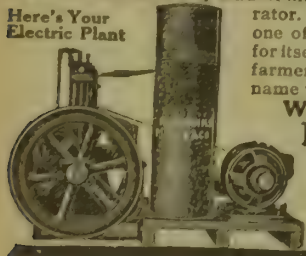
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Light Your Place by Electricity

Electric Light is very economical if you have this outfit—a Fairbanks-Morse Engine with Dynamo. The Dynamo current operates incandescent or arc lights, electric fans, pumps, motors, etc. Shift the belt to the other fly wheel and drive any kind of machine—grinder—churn—buzz saw—separator. Save yourself time and labor by installing one of these outfits on your farm. Soon pays for itself. Simple, safe, reliable. Ideal outfit for farmers. Lowest running and repair cost. Our name your guarantee.



Does This

Runs buzz saw, pump, grinder, cream separator, churn, electric light plant, etc.

Write for FREE Engine Book No. C 1034 on Fairbanks-Morse Engines

Shows how our engine outfits save farmers money. We make several styles and sizes of engines.

FAIRBANKS, MORSE & CO.

LOS ANGELES

CAL.



Black Minorcas Exclusively

Show Record at Los Angeles, January, 1907, 5 first prizes, 4 Seconds, 4 thirds, 3 fourths, 3 fifths. Also two Silver Cups. They will make money for you. Stock and eggs for sale. Catalogue free.

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Successor to Perham & Wheeler

612 Egg Size

Incubators now ready. Investigate is all we ask. Catalogue. Hot water, of course.

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WHITE WYANDOTTES EXCLUSIVELY

Good, White, Typical Birds. Stock and Eggs For Sale.
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White Crest Poultry Yards

Geo. H. Randall,
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W. C. Black Polish
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Petaluma Poultry Show

The Petaluma Poultry Show certainly did herself proud and has much to be elated over in the success of the first show of the new Breeders' Association, not only in the size of the show—being the second largest show in the State so far this year—960 entries, but in attendance was more than expected. The prizes given were ample to go the rounds making every one perfectly satisfied and well paid for their trouble and expenses. Twenty-two cups and \$500 in cash prizes will be recognized by all breeders as well worth going after.

Of the many prize birds in the show the White Minorcas exhibited by H. C. Scrutton, president of the Coulson Poultry & Stock Food Co., attracted attention from all, and the prize cock bird brought down the handsome silver and bronze cup presented by Dodge, Sweeney & Co. for the best bird in the entire show and, when one considers the quality of birds represented at the show (some of which have taken prizes at many of the shows held in the State this year) will realize at once that a bird to carry off a prize with a demand for the best bird must have all the qualities to be able to win a trophy for the best bird with such competition to contend with. Mr. Scrutton's White Minorcas also won cock, 1, 2, 3; cockerel, 1, 2, 3; hen, 3, 4; pullet, 3; pen, 2.

Among the nameless was the Horned Barred Plymouth Rock exhibited by the Petaluma Incubator Co., and caused many queer remarks, which if jotted down would make no small book. Some of the Homer pigeons exhibited by L. C. Byce & Sons are birds with top notch records as long distance flyers.

The list of winners of prizes and cups given will furnish entertaining reading for all the fanciers throughout the State and it will give a good idea of what breeders must go against to win prizes at Petaluma, as most of the exhibitors are among the well-known and successful breeders in the State.

Mr. W. S. Sullivan of Agnew won on Buff Orpingtons; 4 firsts, 3 second and 4 third and two cups.

F. E. Baldwin, of San Jose, won on White Leghorns; 3 first, 3 second and silver cup for best display.

Mr. F. M. Newbert, of Sacramento, won on White Leghorns; 2 first, 3 third premiums.

Mr. V. G. Huntley, of Petaluma, who made the largest number of entries won 14 first, 4 second, 5 third, 3 fourth; \$10 for largest number of entries and three silver cups.

Stover Cup—For best collection of White Leghorns, F. E. Baldwin.

Wickersham Banking Co.—for best bird (opposite sex), J. M. Nelson.

McNear Cup—For best display in the show, V. G. Huntley.

Ten Dollars—For largest number of entries in the show, V. G. Huntley.

Bank of Sonoma County Cup—For best collection in Mediterranean Class, other than White Leghorns and Black Minorcas, P. Ward & Sons.

Petaluma Savings Bank Cup—For best collection of Black Minorcas, J. M. Nelson.

Martin, Dangers & Camm Cup—For best collection of White Plymouth Rocks, Mrs. F. E. Bemis.

Mecham Cup—For best collection of Barred Plymouth Rocks, Moore & Mann.

Petaluma National Bank Cup—For best collection American classes other than Plymouth Rocks, Mrs. Geo. E. Grindell.

Croley Cup—For best collection in Asiatic class, Mrs. E. F. Reid.

The Argus Cup—For best bird in English class, V. G. Huntley.

Racket Store Cup—For best collection in Polish and Dutch classes, Mrs. C. H. Taft.

Campbell Cup—For best collection in French class, Mrs. E. F. Reid.

Petaluma Poultry Journal Cup—For best collection in Ornamental Bantams, Moore & Mann.

Clark Drug Co. Cup—For best collection of ducks, V. G. Huntley.

Scrutton Cup—For best display in Novice Class, K. Gregory.

Camm Cup—For best collection of Games or Game Bantams, P. Ward & Sons.

Fanciers Monthly Cup—For best



Dodge, Sweeney & Co. Cup

For Best Male in Show
Won by H. C. Scrutton, Petaluma

pair of birds of one variety, W. S. Sullivan.

Dobie Cup—For best display of pigeons, J. H. Crow.

\$27.00 Incubator, Presented By The Courier—For largest number of entries in the Novice Class, J. Lee.

California Cultivator Cup—For best White Leghorns in Novice Class, R. M. Hyatt.

A Fancier's Cup—For Best display of Buff Orpingtons, W. S. Sullivan.

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The old reliable Success Manure Spreader has just received another addition to its long list of honors. This time it is a testimonial from the Norfolk Exposition.

The manufacturer, the Kemp & Burpee Manufacturing Company, Syracuse, New York, have just received official notification that the Success Spreader has been awarded a gold medal by the Norfolk Jury of Awards.

The award is justly bestowed. The Success Spreader, formerly called the Improved Kemp Spreader, was the first really successful spreader manufactured. Among the many late comers it has continued to hold its own. It has made its way into all the states, and the yearly sales, instead of being lessened by reason of its many late competitors, are actually on the increase.

We congratulate the Kemp and Burpee people on the honor. Their machine has already been of incalculable benefit to farmers. The more Success Spreaders that find their way on to the farms, the better it will be for this country's soil and crops.

The one hundred premiums given away by the "Success" (no lamp) Incubator Co., of White Salmon, Wash., should interest every farmer as well as the poultrymen.

General Agriculture California Horticulturally

HOW TO MAKE THE BEST BACON.

Not only do my own people like the bacon that I cure better than any other they can get, but every guest we have ever had spoke of its high quality. As it is as easy to have good bacon as poor, I will give my formula for curing meat.

In the first place, medium-sized hams cure best and eat best. We prefer ours to be from ten to twelve pounds. Smaller ones may be as good but it is a waste to kill hogs that make smaller ones.

My hogs run on grass and clover pasture all summer, with a little corn fed, and in the fall on cowpeas. They keep fat and growing all the time, and need but little corn to finish off with.

We aim to have them weigh from 160 to 180 pounds when dressed. Don't like to have them any larger. We do not care to have very cold weather when we slaughter. In fact, do not care to have even freezing weather. We do not hang up the hogs to get cold after being killed, but cut up the meat and salt down while the animal heat is in it. The only objection to this is that the soft meat not yet stiff is harder to cut up in nice shape, but it salts better.

As soon as cut up we salt down. We use about the same proportion of fine salt, saltpeter and black pepper that most people do and we use no sugar. We do however, sweeten the meat with molasses. Our way is to lay down first the hams in a suitable box, with the skin side down. Over the flesh side of all these we pour first enough of the common black strap molasses to coat the flesh side all over, then rub it in with a large spoon, wooden paddle or corncob. Get all to stick on that we can, if not extremely thick and slow to run. After this is put on, we put on the salt mixture. Use a generous quantity, enough to cover the meat thoroughly and press it in with the hands. On the hams put a layer of shoulders, then sides and other parts, treating all the same way.

We leave the meat in the salt six

or eight weeks and then hang up in the smokehouse and smoke. We never use anything but hickory wood and we smoke it long and hard. Never less than six weeks, all day long and into the night and through all sorts of weather, cold or warm, wet or dry. The result is a flavor to the meat that everyone says is fine.

To keep out skippers we apply borax and sometimes wrap up the meat in paper and put in paper bags. Other ways are just as good. I think the fine flavor is due partly to the black strap molasses and to the long smoking with hickory. A little smoke only on the outside does not help the flavor.—G. B. M., in Farm Progress.

WHEN WE GET PARCELS POST—

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You can buy what you can't get in your home town without paying the express company more to carry it than its costs.—St. Louis Star-Chronicle.

PRUNE PLANTING IN SANTA CLARA VALLEY.

SANTA CLARA county and the valley of that name have never lost faith in prunes. Even during the dull period when it seemed as though there never would be a market for the fruit, land owners there continued planting prune trees. They seemed to have gotten into the habit of it. There has never been a year, since it was first discovered that prunes would do here, as nowhere else, that there has not been large additions to the acreage in prune orchards. This season the fruit has brought good prices, and while the crop has fallen very much below the normal, the growers have done well, as the demand has been good and prices high. At the present time preparations are being made for planting a very large new acreage, larger than in any one season for years past.

THE PEACH BLIGHT CAMPAIGN.

Active work is now under way in peach orchards of the State, which have shown evidence of peach blight during the past season. A very timely bulletin on this subject, prepared by Prof. Ralph E. Smith, has been issued by the University, and it should be in the hands of all growers of peaches. Peach blight, unlike pear blight, is a disease which is well un-

derstood and fully capable of prevention. The remedy is Bordeaux mixture, applied early in the season. Peach blight is a fungus disease, its spores are lodged on the twigs and branches of the tree and also on the ground beneath. These spores root as soon as weather conditions are favorable, and unless checked before they have taken root, it is practically impossible to destroy them with any ordinary remedy. By an early application of the Bordeaux, the spores are destroyed before they can obtain a root hold on the tree and the damage is averted. This has been the experience of all who have treated peaches for the blight, and invariably trees which were sprayed early in season, from the middle of November to the middle of December, and the sooner the better, have given a satisfactory crop and have been free from the disease while those which were neglected until late in the season have either little fruit or the crop has been a total failure. The time in which to fight this disease is getting short and unless already attended to, the work should be done immediately.

Kings county has received some shipments of peach trees from eastern nurseries, but they have been watched for indications of blight or any other disease.

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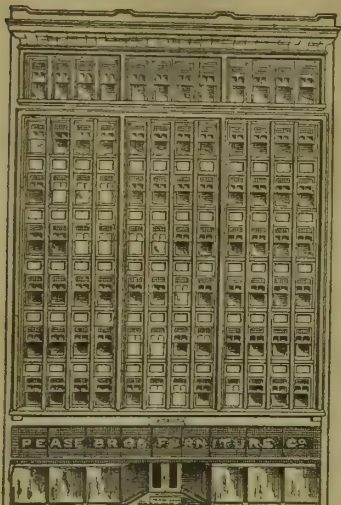
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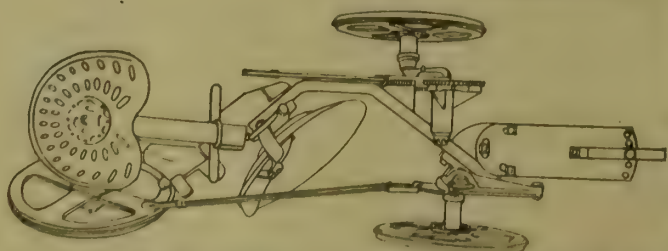
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Household Department

DECEMBER.

O month far famed! O days renowned!

Joy-fraught with hallowed benedictions crowned;
Life's yearly halting place for retrospective thought,
Where pensive memory calls back the smiles, the tears,
The joys, the hopes, the loves of vanished years,
And sighs to see the havoc, sad, that Time has wrought.

O hoary month! In regions of the North and East
The song of bird and rippling of the brook have ceased,
And Nature's thousand charms of summer days have fled.

There Boreas reigns, fierce god of wind and storms;
And Winter all of verdure into brown and white transforms
And leaves no trace of life and beauty sped.

O happy month! when keen anticipation, sweet,
Flies swift on wings of ardent love to greet
With gifts the friend, the lover or the kindred near.
As Winter closer draws his icy-fettered chains,
The heart expands and love unselfish reigns,
And speeds its lessons to the ones most dear.

Illustrious month! of most illustrious birth!
Good tidings, peace and joy to all the earth,
A heavenly choir announced when Christ was born.

No other birth such mighty portent bore,—
This Prince of Peace whom heaven and earth adore.
How thrills the heart at thought of Christmas morn!
—J. C. Oliver, Los Angeles.

The Orphaned Twins' Christmas Tree

Continued from Last Week

"Yes," answered his wife, hesitatingly, "everything so far as planned will be done by tomorrow night, when I get the doll's head sewed on and the clothes on her. But—"

"But what?" asked Mr. Baker, seeing his wife did not finish saying what was in her mind.

"Suppose we go a bit further and fix a Christmas tree?" she ventured.

"A Christmas tree? How—out of what?" asked the astonished Mr. Baker, who knew that such things as evergreen trees were scarce, and if one afforded the extravagance he must pay dearly, for such trees were shipped into the State from a great distance, thus enhancing their value.

"A little cottonwood," explained Mrs. Baker, working away on Tom's toboggan cap, which was all but complete. "I'll drape the bare branches and twigs with some cotton batting I have here to fill a comfortable with. It won't hurt the cotton, and it will make the tree look for all the world as if it were covered with snow."

"Say, that's just the idea," acquiesced her husband with new enthusiasm. "There's plenty of cottonwoods on the creek between here and town, and I'll cut a nice bushy sapling tomorrow as I come home. But wouldn't green tissue paper be better than cotton batting? I've seen folks use it that way when I was a youngster."

"I haven't the tissue paper, and I have the cotton," smiled Mrs. Baker. "Take what the gods supply and don't grumble," she added merrily. The next day—the Saturday before Christmas—Mr. Baker went to town. From store to store he went pricing

toys, for he had but 60 cents to spend, and he must stretch it all that it would stand. To his delight he found that the Christmas goods were all marked down for the closing out sale, for this was the last day of business for the merchants before Christmas, and the goods that were not sold today would lie on the shelves till another year rolled round. The doll's head—a fine, big china one, and just the fit for the body that awaited it—he purchased for 15 cents. And the bugle—think of it!—was got for 15 cents also. And what a blow it could make, too, for Mr. Baker tried the power of his lungs on it to make sure it was all right, for its drop from a quarter to 15 cents made him cautious.

"Now for the candy and nuts," he said to himself, as he hurried to a grocery store. There he bought half a pound of each, which took another 20 cents from the original 60 cents. And now everything was in his arms and he still had a dime of Christmas money in his pocket. "Ah, I have it!" he exclaimed inwardly. "I'll get the green tissue paper." Straight to a little milliner's shop he went (for he had read her advertisement and knew she carried a line of tissue paper) and soon he found the desired shade and asked the price. "Ten cents a dozen sheets," she informed him.

"One dozen, please," he ordered proudly, tossing the dime on the counter. Then he climbed into his wagon, pulled a blanket over his lap for warmth, and whistling gaily he started homeward. At the creek he stopped and cut the cottonwood sapling, trimmed off the top, and put it in the back of his wagon. Thus Mrs. Baker's plans were carried out to the letter, adding by way of a finishing touch the dozen sheets of green tissue paper.

Christmas morning came, and with its earliest streak of dawn Mr. and Mrs. Baker were out of bed and to the kitchen, where they viewed by dim daylight the monument of their last few days' labor. In the corner of the room farthest from the stove stood the Christmas tree, draped with green from trunk to topmost bough, with here and there flecks of white cotton that resembled snow. From the largest branches hung the few gifts, arranged in the best way to make a show. The two good souls had worked far into the night to complete the whole, having decided to let the children have the surprise when they came in to breakfast Christmas morning.

As Mr. and Mrs. Baker added a new touch here and there a knocking was heard at the kitchen door. Mr. Baker, opening it, found old Mr. Jamenson stamping off the snow on the step, his arms full of bundles.

"Well, howdy-do!" cried Mr. Baker, cordially. "Come in and smell the warmth. You must be cold—out in the frost so early."

While Mr. Baker placed a chair by the fire for the visitor he came in and deposited his bundles on the table. "Yep, neighbor," he said, "I'm almost turned to an icicle. But as I'm tryin' to play at Santa Claus a bit for the first time in my life—I reckon I mustn't complain about the cold. I was into Jones' store yest'day, an' see you a-gittin' them little tricks



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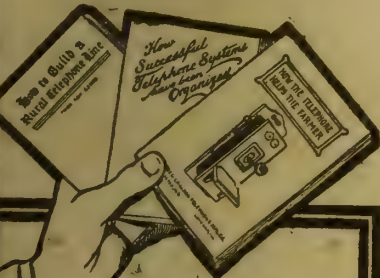
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for them kids, an' it sot me to think-in' a few thunks. Says I to me, if that poor chap can afford to spend a few cents that a-way I ort to throw in a few nickels myself to help along the pleasure of the orphans. So I pitched in and bought a little foolishness myself. But, say—" and his eyes fell on the Christmas tree—you've got a dandy there, but it needs more on it. Here, Mrs. Baker, undo them thare tricks an' hang 'em up."

Mrs. Baker obeyed, undoing the parcels one by one. First came a doll's house, complete with furniture; then a doll's trunk, filled with nuts, fruit and candy; a drum, a box of marbles, a Noah's ark, picture books, and a toy engine that wound up—all were laid out before the surprised and pleased Bakers. The last was a large, solid bundle, which Mrs. Baker took in her hands, and seeing something scrawled in a big, awkward hand across the wrapper, she involuntarily read it aloud. "For Missis Baker, with the kind wishes ov her nabor, old Jameson, esquire." On tearing away the paper a handsome dress pattern of black cloth, with linings and trimmings was disclosed. Before Mrs. Baker could speak her grateful feelings the queer visitor handed Mr. Baker a bit of paper, saying: "For your Christmas gift, neighbor." To the amazement of both the Bakers, they saw he had given over the \$60 note, receipted.

And who can picture the joy of Minnie and Tom when, after breakfast, the sheet that had been carefully drawn over the Christmas tree was taken down, leaving that wondrous thing of beauty before them?

And who can look into the hearts of the kind, unselfish foster parents, and the suddenly grown generous old neighbor, without also rejoicing in their happiness and Christmas cheer?

But this is not a story of grown-ups, so we draw the curtain on their part of the picture and return to the orphans. As soon as their first wonder was in a measure over their new mamma said: "Now my dears, you must thank our good friend here for much of this morning's pleasure and lovely presents."

And their thanks were profuse and heartfelt, for the little ones did not lack in feelings of gratitude. "I'm thankful for all my pesents, so I am," declared Tom, holding the drum proudly over his breast. "An' I'm thankful for such a good home and kind friends, too, so I am." Then he emphasized his thankfulness by blowing a shrill blast of his bugle, which he followed up with a loud beating of the drum. All held their ears shut and laughed gaily.

Then it was Minnie's turn to express herself. "I'm ever and ever so thankful for e-v-e-r-y-t-h-i-n-g, I am," she said, emphatically, hugging dolly to her heart. "I'm thankful for good Mr. Jameson and for my new papa and mamma, who's as good to us as our own dear papa and mamma were what's now in heaven."

"Amen," said old man Jameson, with a little quaver in his throat. And Mrs. Baker stooped, putting her arms round the twins, while her husband found it quite necessary to go to the window and look out at the sky.—Farm Sentinel.

A GOOD PAPER.

I think the Cultivator a good paper.—A. M. Mitchell, Redlands.

Don't Shiver

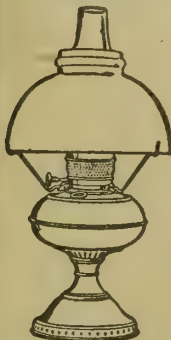


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BARRED PLYMOUTH ROCKS, OCEAN Blue strain. All our breeders for sale without reserve. Eggs, one-half price. Now is the time to buy your breeders for next year. We have lots of good ones. Write today. We live at Moneta, Cal. Take Redondo car, 2nd and Spring Sts., via Gardena. Get off at Illinois St. right on ranch. MR. and MRS. D. T. WIELAND.

WHITE PLYMOUTH ROCKS EXCLUSIVE- ly. The largest flock of prize winning birds in the West. At the late Los Angeles show, 1907, we won twenty-three out of a possible twenty-five prizes. We offer extra bargains in our this year's breeders. Will sell to suit purchaser. Eggs \$2.50 per 15; \$10 per 100. A. J. LITTLE, Monrovia, Cal.

WHITE WYANDOTTES—"CREAM OF THE Coast" strain—the 200-year-kind. Barred Plymouth Rocks, my "Blue Diamond" strain, are great winter layers of big, brown eggs. No incubator lots furnished. Eggs per 13, after Jan. 1, carefully packed, \$1.50. Address WILLIAM C. PARKER, 111 Pacific avenue, Santa Cruz, Cal.

BLUE ANDALUSIANS. WON ALL PRIZES at Los Angeles County Show, 1907. A few good trios and pens; also good breeding cockerels; eggs for hatching, \$2 and \$2.50; no better stock anywhere. MRS. T. R. GRIF-FITH, 3111 Walton ave., Los Angeles, Cal.

S. C. WHITE LEGHORNS—I HAVE 35 hens and 2 cocks 19 months old selected breeders hatched from Howard's best pens. I will sell the lot for \$70 or 17 hens and 1 cock for \$35. CLYDE J. MOSS, Corona, Cal.

CORNISH INDIAN GAMES—FOR SALE—A few choice cockerels eight months old at from \$2.00 to \$4.00, according to choice. F. S. ASHEY, box 52, route 2, Long Beach, Cal.

FOR SALE—FOUR FINE R. I. RED cockerels from Shade's No. 1 Pen, at San Bernardino, to whom refer. J. M. GEORGE, Carpinteria, Cal.

PHEASANTS.

"PHEASANT FARMING," ILLUSTRATED. 25c. Tells how to raise pheasants. Birds and eggs for sale. SIMPSON'S PHEASANT FARM, Box C247, Corvallis, Oregon.

ARTICHOKES.

FOR SALE—JERUSALUM ARTICHOKES— The great winter hog feed. Address FANCHER CREEK NURSERIES, Fresno, California.

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WANTED—SITUATION BY RELIABLE IN- dustrious, young man with California experience in vineyard, orchard and general farm work. Address, "Vineyardist," care of "Cultivator," Los Angeles.

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FOR SALE ROSES—FINE ASSORTMENT of field grown 2-year-old grafted roses. Now ready for delivery at \$3.00 per dozen; none better in the State; order quick. H. L. BAUER & SONS, 737 S. Spring St., Los Angeles.

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WANTED—ONE HUNDRED TWENTY good young Jersey cows. None but Jerseys wanted. Will accept single carload lots. Geo. A. Smith, Corcoran, Cal.

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The Vermont Farm Machine Company, of Bellows Falls, Vt., is sending out a beautiful booklet of over 50 pages illustrated in colors and with fine half tone engravings, which shows the various working parts, a view of the factory, and pretty nearly everything about a cream separator that a dairymann would like to know. Anyone who will say that they saw it in the Cultivator, and will write to the firm mentioned will be able to secure this booklet.

The Produce Markets

Los Angeles Markets

LOS ANGELES, Dec. 24, 1907.

Butter.

As suggested last week, butter has made a good advance during the week and now stands with extra creamery at 75 cents. But it is plain that the increased price has lessened the consumption and the tone of the market is not at all strong. The storage and lower grades stand at the same quotations as last week.

Creamery extra per roll.....75
Firsts.....57½@60
Seconds.....60
Dairy.....45
Cooking.....45@47
Eastern.....62½@65
"Butterine".....15@22½

Cheese.

Cal Young America per lb.....20½
Hand.....20½
California Anchor.....19
Northern fresh.....17½@17¾
Eastern singles.....19
Imported Swiss.....32
Tulare flats.....18½
Domestic Swiss.....21@22
Oregon.....18

Eggs and Poultry.

Even holiday demand has not held eggs up and the price has lowered under the heavier receipts. At this date it appears that a still lower figure may prevail.

Eggs local candled.....33@35
Eggs case count.....30@32
Fresh Eastern.....25@30

Turkeys are in demand and are marked up slightly. The demand is better than at Thanksgiving but not sufficient to make a specially strong market. A slightly better quotation prevails all along the line.

Hens per lb.....13
Young roosters per lb.....14
Fryers.....17
Broilers per lb.....20
Old roosters.....7
Turkeys.....15@17
Geese.....13
Ducks.....14
Squabs.....1.50@1.75

Live Stock.

The following quotations are f. o. b., Los Angeles, on all stock.

Hogs from 175 to 200 lbs.....6¼
Prime steers.....4½
Heifers.....4
Calves per lb.....4½@5
Sheep ewes per head.....4.75
Lambs per head.....3.75@4.25
Wethers.....5.50

Potatoes.

Highlands.....1.15@1.35
Early Rose.....1.75@2.00
Salinas.....1.75@1.85
Colorado.....1.75
Sweet potatoes per sack.....1.80@2.00
Oregon.....1.35@1.50
Idahos.....1.25

Onions.

Garlic has been marked up 2 cents during the week. Onions practically as last week.

Silver skins.....2.50
Yellow Danvers.....2.30@2.50
Australian Browns.....2.25@2.50
Globe.....2.50@2.75
Oregon.....2.50@2.75
Colorado.....2.30@2.35
Garlic.....10

Vegetables.

Vegetables have hardly met the demand as to quantity during the past week and are now at higher price than formerly. Extra help was demanded on the market to move the increased quantity received.

Artichokes per doz.....1.15
Beets per doz.....30@35
Bell peppers per box.....40@45
Beans Lima per lb.....7
Beans green.....9
Brussels sprouts per lb.....7
Cabbage sack.....25@35
Celery per crate.....1.50
Chill peppers green lb.....2@2½
Cucumbers per box.....30@50
Cauliflower.....1.25
Carrots per doz.....75
Eggplant per lb.....4½@5
Green onions doz bunches.....10@30
Hubbard squash per lb.....10½
Lettuce per crate.....25@50
Pie Pumpkins.....1½
Peas sugar per lb.....5
Okra per lb.....50@60
Parsley.....30
Parsnips.....35@40
Rhubarb per box.....75
Radishes per doz.....15@20
Salsify.....30
Spinach per doz.....10@25
Squash crate.....50
Turnips doz bunches.....40
Tomatoes per box.....75@1.50

Citrus Fruits.

New oranges.....1.85@2.00
Culls.....75@1.00
Grapefruit seedless.....2.50@3.00
Grapefruit seedlings.....1.75@2.00
Lemons fancy.....2.25
Lemons choice.....1.50@1.75

Fresh Fruits.

Nearly all fruits are in in especially strong demand with much cold storage drawn out.

Bellefleurs.....1.90@2.00
Baldwins.....1.25@1.50
Pippins 4-tier.....1.50
Gravenstein.....1.50
Alexandria.....1.00@1.50
Cooking.....50@1.00
W W Pearmains.....1.75
Colorado Jonathans.....3.50
Casaba per crate.....2.00@2.50
Flgs black per lb.....8@12
Flgs white.....11@12
Guavas.....6@8
Pears.....1.25
Winter Nellis per lb.....0
Pomegranates per lb.....0
Persimmons.....6@9
Quinces.....1.25
Raspberries.....15@18
Strawberries.....5@7

Dried Fruits.

Apricots.....17@21
Evap apples fy per lb.....10½
Figs loose.....4@6
Peaches.....12@11
Pears.....13½@11
Nectarines.....13@14
Prunes.....3½@5½
Plums.....11½@13

Beans, Dried

Lima beans declined during the past week. Wholesale quotations on the market now are:

Limas per ctl.....5.25@5.50
Pink No 1.....3.60@3.70
Lady Washington.....3.75@3.95
Small white.....3.75@3.85
Black eyes.....4.50@4.75
Garvanzas.....5.25@5.75
Lentils.....12@12½

Nuts.

Almonds per lb.....18@20
Peanuts Virginia.....8½@9
Peanuts California.....6@7
Walnuts No. 1 S S.....15@18

Hay.

Barley No 1.....14.00@18.00
Barley No 2.....13.00@14.00
Alfalfa northern per ton.....15.00@17.00
Alfalfa new local.....15.00@17.00
Plain Oat No 1 new.....16.00@18.00
Wheat No 1.....18.00
Wheat No 2.....14.00

Grain.

Wholesale selling price f. o. b., Los Angeles.
Wheat new per ctl.....1.85
Wheat in 100-lb. sacks.....1.90
Barley.....1.50
Corn Eastern sacked.....1.80
White oats.....1.90

Feed Stuff.

Selling price F. O. B. Los Angeles as follows:

Cracked corn.....1.50
Shorts.....1.50
Bran.....1.40
Oil cake meal.....2.50
Feed meal.....1.90
Rolled barley.....1.80

FINE STOCK

J. Crouch & Son, proprietors of the LaFayette Stock Farm, Lafayette, Indiana, are shipping to the Coast a new importation of Percheron and Belgian stallions, all of which showed at the International Stock show at Chicago, December 2nd to 8th.

They have been exceedingly fortunate this year in exhibiting their stock at the different State fairs, viz: Ohio State Fair, at Columbus, Ohio; Indiana State Fair, Indianapolis, Ind.; Illinois State Fair, Springfield, Ill.; Missouri State Fair, Sedalia, Mo.; and the American Royal at Kansas City, winning 82 firsts, 52 seconds, 29 thirds making a grand total of 163 prizes.

They announce through their agent, Mr. J. F. Campbell, manager of their Sacramento stables, an exceptional business during the past few months and feel much encouraged at the outlook for the coming season, showing that the breeders of coach and draft horses in California are constantly looking for good stock and the time is not far off when the effects of the German coach, Percheron and Belgian stocks will be more prominent in California.

Their stock can be seen at their stables at the State Fair grounds at Sacramento at all times.

The stock exhibited by this firm at the California State fair this last September attracted a great deal of attention and shows conclusively that Mr. Campbell has a fine bunch of stock at his Sacramento stables. An illustration of some of the finest of it appeared in the Cultivator in the issue which appeared at the time of the fair.

San Francisco Markets

SAN FRANCISCO, Dec. 24.

Butter.

Butter advanced and declined during the week. The market is now weak in tone and while higher than a week ago is weak and may decline still ore.

The current prices on dairy products in San Francisco are always from 2 to 3 cents higher than the rates given in the daily official list of the Wholesale Dairy Produce Exchange. The retail dealers in this city invariably pay an additional 2 cents per pound on butter and per dozen of eggs, and occasionally it is 3 cents. In cheese the increase is 1 cent per pound. By making these additions to the Dairy Exchange prices the producer in the country can always determine the actual prices ruling in this city. The quotations as prepared by the San Francisco Wholesale Dairy Exchange yesterday were as follows:

California extras per lb.40
California firsts36
California seconds25
Western extras25
Orange Cal ex.24½

Cheese.

California young American fy.....17
California flats fy16
Western fy17½
Oregon fancy.....15½

Eggs and Poultry.

Eggs stand at slightly higher quotations for fresh ranch. Storage have declined slightly.

Fresh ranch eggs45
Eggs firsts per doz.40
Eggs second per doz.30
Eggs thirds.....23
Orange Cal extra.....28
Western Selected.....22
Western firsts.....19

Poultry is fairly active, yet for holiday trade not up to expectations.

Chickens per doz.4.50@6.00
Ducks extra.....6.00@7.00
Young roosters.....6.00@7.00
Old roosters.....4.00@4.50
Duckers per doz.4.50@5.00
Duckers per pair.....4.00@4.50
Duckers young.....4.00@5.50
Turkeys per lb.16@17
Geons.....1.00@1.25

Live Stock.

Cattle No. 1.....8@8½
Cattle second quality.....7@7½
Cattle 1 cows and heifers.....6½@7
Hogs 80 to 200 lbs.....6@6½
Hogs 200 to 300 lbs.....5½@6
Lives per lb.4½@5
Lamb spring.....6@6½
Others No 1.....5@5½
Others No 1.....4½@5

Potatoes

The potato market is rather weak. Over whites.....60@85
Oregon Burbanks.....1.00@1.25
Early Rose.....1.25@1.35
Linas.....1.50
Peets.....2.25@2.50

Vegetables.

The vegetable market is necessarily let on account of the limited receipts in most descriptions. Green beans are the most abundant variety, but they are augmented daily by canners that are practically unsaleable. String beans cleaned up briskly at a bit a pound and a firm inquiry for them throughout the day. The holiday demand is helping out on the lines. Potato market is yet weak and lower.

Peas per crate.....75@1.00
Peas per sack.....1.50@1.75
Cucumbers per doz.1.00@1.25
Bell peppers per lb.5
Bell peppers per lb.6
Green plant per lb.15
Green peas per lb.2@2.50
Cabbage per box.....1.00
Crownfat squash per sack.....60@75
Shrooms.....15@35
Cabbage squash per sack.....60@80
Cabbage per box.....1.25@1.75
Cucumbers local.....1.00@2.00
Cucumbers.....12½@15
Cucumbers.....6
Cucumbers.....4@6

Onions.

Onions Br Australians per ctl 2.00@2.10
Low Danvers.....2.00@2.50
Oregon.....2.25

Citrus Fruits.

Oranges navel.....1.25@2.00
Oranges seedless.....2.50@3.25
Oranges.....1.50@3.00
Oranges.....2.00@4.00

Fresh Fruits.

Apples.....1.50@1.75
Apples.....2.25@2.50
Apples small stock.....40@75
Apples one layer.....50@1.00
Apples.....12½
Apples winter Nellis.....2.00@2.50
Apples cooking.....1.00@1.50
Apples.....75@1.25

Pomegranates per box.....1.00@2.50
Quinces per box.....1.00@1.25
Raspberries per chest.....10.00@12.00
Strawberries per chest.....5.00@10.00

Dried Fruits.

Apples (evap.)10@10½
Apricots per lb new.....13@21
Figs white.....3½@5
Nectarines.....12½@15
Plums pitted.....12@15
Prunes 4 sizes.....4@5½
Peaches.....10@13
Pears.....7@13
Prunes 4 size bag basis.....4½@5

Beans, Dried.

Limas.....5.15@5.20
Pink.....3.20@3.25
Small white.....3.45@3.50
Large white.....3.00@3.10
Lady Washington.....3.40@3.50
Black eyes.....4.00@4.25
Red kidneys.....3.40@3.50
Bayo.....3.15@3.25

Hops.

Hops new future delivery per lb.4@8
Hops old fancy.....2@3

Nuts.

Almonds new.....16½@17½
Peanuts California.....6½@7½
Walnuts.....14@17

Honey

Clear white comb.....16@17
Amber.....12@15
Extracted.....7½
Beeswax No 1 per lb.....25@27

Hay.

Regarding hay shipments, Somers & Co. says: "There has been a material diminution in hay shipments during the past week, the total showing 3360 ton in comparison with 5170 for the week preceding. This has been as a matter of necessity for the market could not continue to absorb hay in such quantities as was being shipped nor are there a sufficient number of hay wagons in town to properly unload such heavy arrivals. The only feature of the market at the moment is its dullness. Values are considerably disturbed and although most receivers are endeavoring to maintain prices, yet material cuts in prices are being made continually by some receivers in order to effect sales. Shipping conditions are somewhat reversed, for although the market was very largely supplied by schooners a short time ago, yet now most of these have been laid off and the bulk of the present arrivals are by rail."

Alfalfa local.....19.00@13.00
Tame oat choice.....11.00@11.15
Wild oat.....10.00@12.50
Wheat and oat.....10.00@15.00
Wheat choice.....16.00@18.00

Grain.

Wheat No 1.....1.67½@1.72½
Barley No 1.....1.57½@1.60
Corn small yellow.....1.50@1.55
Corn large yellow.....1.50@1.55
Oats white.....1.60@1.70
Oats red.....1.75@1.90

Feed Stuff.

Bran per ton.....28.00@30.00
Straw per bale.....75@85
Feed cornmeal per ton.....36.00@37.50
Cracked corn per ton.....37.00@38.00
Rolled barley per ton.....35.00@36.00
Oil cake meal per ton.....38.50@40.00
Cocoanut cake, per ton.....25.00@26.00
Middlings.....30.00@32.50

Citrus Market

LOS ANGELES, Dec. 24, 1907.

Oranges have gone forward liberally during the holiday season, more liberally than before, and yet the increased quantity has been absorbed at very satisfactory. Shipments are now much lighter and will continue light till the demand increases.

Lemons are in the dumps waiting either colder or warmer weather in the East. Some foreigners are coming in, but the few Californias supply most of the demands.

Total shipments to date are 1857 of which 518 were lemons. Same date last year 1316 cars, of which 330 were lemons.

NEW YORK, Dec. 23.—Market is stronger and higher on best fruit. Easier and lower on lemons. Weather unfavorable. It is raining. Twenty cars of navel, four cars of lemons and one car of Arizona sold.

NAVELS
Palermo, fy Bates & Boalt.....2.10
Lucky Strike.....2.20
Oroville.....2.15
Royal Knight R H Ft Ex.....2.45
Royal Knight xfy R H Ft Ex.....2.35
Niagara fy o r Stewart Ft Co.....2.15
Rescue ch Stewart Ft Co.....2.05
Mariposa fy Cal Cit U.....2.45
Mariposa fy Cal Cit U.....2.45
Badger xfy Cal Cit U.....1.95
Mariposa fy Cal Cit U.....2.55

LEMONS—
Flower xfy Gr Ft Co Upland.....2.45
Buckeye ch Ohio Lemon Co.....1.80
Punch fy Semitropic Ft Ex Cole.....2.20
Club ch Semitropic Ft Ex Cole.....1.95
Pet xc San Antonio Ft Ex.....2.10
Greyhound ch San Antonio Ft Ex.....1.85
Arizona navel, Desert Brand bx 4.05
Arizona navel, desert brand one-half boxes.....3.00
BOSTON, Dec. 23.—Market is weak

on small sizes. It is raining. Fifteen cars sold. Fifteen on tracks. Twenty-five cars offered. Then withdrawn.

NAVELS—
Niagara fy Stewart Ft Co.....2.15
Independent fy Gr Ft Co.....2.00
W. Highland fy Gr Ft Co.....1.90
Valle Vista ch Gr Ft Co.....1.70
Marguerite xc Cal Cit U.....1.65
Salt Lake T I St Gr Ft Co.....1.60
Royal Knight xfy R H Ft Ex Red.....1.80
Crocus T I xfy SB Ft Ex Yerkes.....2.45
Cobbler o r R H Shoemaker.....2.15
Independent ch Gr Ft Co.....1.75
W. Highland ch Gr Ft Co.....1.70
Hollywreath fy Cal Cit U.....1.60
Crocus xfy SB Ft Ex Yerkes.....2.00
Canna xc SB Ft Ex Yerkes.....1.85

LEMONS—
Limited fy Strachan Ft Co.....2.10
Whittier xc ST Ft Ex Whittier.....2.40
Papoose ch Strachan Ft Co.....1.50
ST. LOUIS, Dec. 23.—Market is firm on good stock. It is snowing. Nine cars sold. Seven on track.
For-get-me-not fy TC Ft Ex Port.....2.35
Tulip xc TC Ft Ex Port.....2.25
Oakleaf ch TC Ft Ex Port.....2.20
Buena st Benchley Ft Co.....1.85
Whittier xc ST Ft Ex Whittier.....2.25
Pico st ST Ft Ex Whittier.....2.15

LEMONS—
Pet xc San Antonio Ft Ex San Di.....2.15
Greyhound c S Ant Ft Ex San Di.....2.10
Duck st S Antonio Ft Ex San Di.....1.40
Sunrise st Cal Cit U.....1.25

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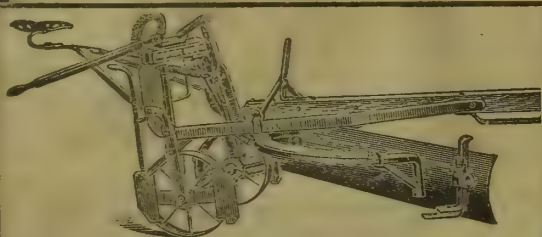
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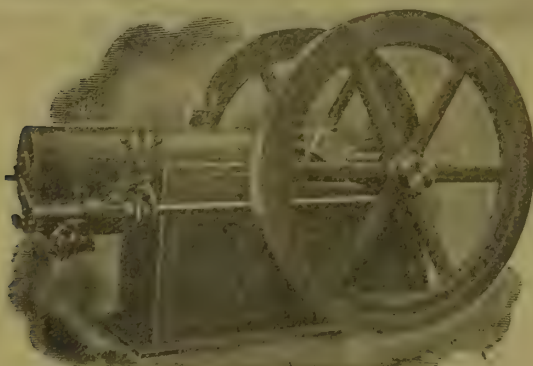
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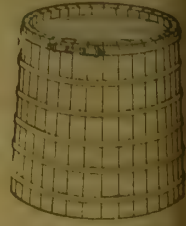
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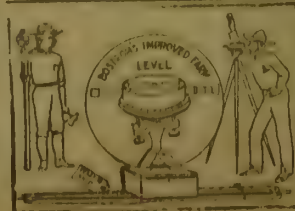
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